

REVIEW THE USDA'S DISTANCE LEARNING AND TELEMEDICINE PROGRAM

HEARING BEFORE THE COMMITTEE ON AGRICULTURE HOUSE OF REPRESENTATIVES ONE HUNDRED EIGHTH CONGRESS FIRST SESSION

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WEDNESDAY, JUNE 25, 2003

HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
Washington, DC.

The committee met, pursuant to call, at 10:05 a.m., in room 1300, Longworth House Office Building, Hon. Bob Goodlatte (chairman of the committee) presiding.

Present: Representatives Boehner, Smith, Lucas of Oklahoma, Moran, Gutknecht, Ose, Hayes, Osborne, Pence, Janklow, Burns, Bonner, Rogers, Musgrave, Nunes, Neugebauer, Stenholm, Dooley, Etheridge, Baca, Alexander, Ballance, and Udall.

Staff present: Dave Ebersole, Brent Gattis, Ryan Weston, Kellie Rogers, Callista Gingrich, Matt Schertz, and Russell Middleton.

The CHAIRMAN. Good morning. This hearing of the House Committee on Agriculture to review the Department of Agriculture's distance learning and telemedicine program will come to order.

I have an opening statement, but before I give that, I would like to take the opportunity to welcome the newest member of the committee, Congressman Randy Neugebauer from the great State of Texas, who is filling the shoes that I am filling at the same time. I don't know quite how that works. But since I took over the chairmanship of the committee from Congressman Larry COMbest, Congressman Neugebauer has taken over the representation of his congressional district. So we will work as a team, and it will be all the two of us can do to fill in for the great work that former Chairman Combest.

Mr. STENHOLM. Will the gentleman yield?

The CHAIRMAN. I am sure that the gentleman from Texas, whom I will yield to, will be glad to welcome his fellow Texan as well.

Mr. STENHOLM. Thank you, Mr. Chairman.

I join you in welcoming my neighbor and friend, Randy Neugebauer, from Lubbock. I look forward to developing the same working relationship and friendship with you, Randy, that Larry and I had over the many years. We welcome you to the committee.

The CHAIRMAN. And, Randy, the chances are that you will get up here to this seat before the gentleman next to me will.

OPENING STATEMENT OF HON. BOB GOODLATTE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

The CHAIRMAN. The United States has experienced tremendous technological change over the last decade. The Internet and other emerging technologies have helped transform how we learn, how we conduct commerce, and how we interact with one another.

New technology offers great promise to rural areas which often do not have access to the institutions, markets, or population advantages available in urban areas. However, some of this promise has yet to be realized. Logistics of distance, a lack of private investment due to sparse market demand, and other impediments have kept rural America from enjoying some of the boom and benefit of modern technological growth.

First authorized in the 1995 farm bill, the Distance Learning and Telemedicine Program was established to provide rural schools and health care providers with needed investment in telecommunications technologies. Bringing these technologies to rural areas that may otherwise be unavailable helps strengthen the access, quality, and affordability in education and health care resources.

Since its start, the demand for the Distance Learning and Telemedicine Program continues to grow. To date, the Distance Learning and Telemedicine Program has funded 500 projects across 45 States and four Territories, totaling \$173 million. Funding for distance learning and telemedicine services are having a positive impact on many residents in our rural areas. In my State, for instance, these programs are providing students, teachers, parents, and rural schools with many new opportunities while also delivering high-quality health care services.

The Distance Learning and Telemedicine Program has made great strides in providing crucial educational and health care resources to rural America. However, I recognize both opportunities and challenges still remain. For example, I would note that the appropriations bill at this point provides less than half of the dollars the committee made available in the farm bill for broadband deployment.

Today, we establish a record that I hope will bring attention and ultimately will provide answers to the problems facing rural educational and medical services.

I welcome each of you and look forward to your comments on the benefits of the Distance Learning and Telemedicine Program and how we can further impact education and health care in our rural communities.

I now would like to again recognize the ranking member, the gentleman from Texas, Mr. Stenholm.

OPENING STATEMENT OF HON. CHARLES W. STENHOLM, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. STENHOLM. Thank you, Mr. Chairman. Thank you for calling this hearing to highlight USDA's Distance Learning and Telemedicine Program, administered by Rural Development, and the Rural Utility Service, better known as RUS.

This hearing provides this committee an opportunity to highlight the challenges facing rural America and the Federal programs that

are designed to respond to the unique needs rural citizens face on a daily basis. I hope this hearing will be the first in a series of hearings to explore rural issues and the ways this committee may attempt to address them.

Let me take this opportunity to welcome Under Secretary Dorr and RUS Administrator Hilda Legg to the committee. I know that both of you share our passion for rural America and are also committed to finding ways to improve amenities available in rural communities. It is good to have both of you here today.

As of 2001, approximately 55 million persons resided in non-metropolitan areas. This is nearly 20 percent of the U.S. population. On average, rural residents are older, less educated, and poorer than their urban counterparts. Tragically, this trend seems certain to continue as many farm-dependent counties continue to lose college graduates.

Rural health care has been a concern of mine for many years. Given the demographics and trends in rural population, health care for elderly rural residents is becoming more urgent, but unfortunately is less available in sparsely populated areas due to its high delivery cost and the lack of medical professionals. For example, there are areas in my district where the ratio of trained nurses, those with Bachelor of Science degrees, to patients is approximately 1 per 1,100. This is about 10 times the recommended national average of 1 per 126. The need is so great in west central Texas that nurses are recruited from Canada.

Again, there are 55 million rural residents nationwide that have unique needs, some of which can be addressed by the Distance Learning and Telemedicine Program. We can't hesitate to explore every possible option for these people, and I look forward to hearing the testimony and the ideas of the witnesses who have come here today to share their views with the committee.

And now, again, Mr. Chairman, I would repeat, my experience with the telemedicine run through Texas has been nothing but good. The rural health communities, the rural community health clinics, two of which I have in my district, have used this technology and used it successfully.

But we are just on the cutting edge. On the educational side of it, my hometown of Stanford has used long distance learning to a tremendous success for the students there, and other towns and communities are—as the technology becomes available and affordable, are beginning to use the technology.

It is sad to hear, as you mentioned in your statement, Mr. Chairman, that we are cutting back on the funding to make available the technology that we will highlight today. That is one of the many casualties of the economic game plan and the budget that we are now under. And we are going to continue to see a lot of talk about the things that we need to do. But when we come down to actually funding them, we are going to find that the money is not available.

That means we are going to have to prioritize—this is one area that if we are truly concerned about health care, we are truly concerned about educational opportunities, the most efficient, i.e., the best way to deliver the services with the least amount of dollars, is the technology that we will hear about today.

Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

Are there any other opening statements? Any will be made a part of the record.

[The prepared statement of Mr. Smith follows:]

PREPARED STATEMENT OF HON. NICK SMITH, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF MICHIGAN

I want to thank Chairman Goodlatte for holding this hearing today on the Department of Agriculture's Distance Learning and Telemedicine Program. I would also like to thank our distinguished witnesses for joining us today.

The problems of rural education and health programs are fundamentally different than urban problems. In an urban area like Washington or Detroit, schools and hospitals are everywhere. However, in our rural areas, schools and hospitals are not so accessible. Hospitals and schools are farther apart simply because people are fewer and farther apart.

The goal of the USDA's Distance Learning and Telemedicine Program is to provide the resources and technology to bridge those distances and to bring teachers and doctors closer to students and patients. At the same time, it gives people the opportunity to use the Internet technology that is so important to our changing economy. While farmers have a special understanding that there is no such thing as a free lunch, education and technology are the cheapest and easiest ways to increase the productivity and competitiveness of American workers. Given rural areas difficulties with education, this program has been a useful way to address real problems.

In Michigan's seventh district the DLT program helps link together health clinics and schools, allowing them to effectively share resources. One grantee linked together health clinics in six counties. With the money from the DLT grant, they purchased teleconferencing technology to help with clinical teaching, patient examination, and patient diagnostic capabilities. Another grantee links together 58 school districts, totaling over 86,000 students. With the technology purchased with DLT funds, these school districts are sharing educational resources, and health workers are using the system for collaboration with medical experts in universities and hospitals that are hours away by car.

The Distance Learning and Telemedicine Program is clearly a good program addressing a real need in our rural communities. According to the USDA website, it has so far provided \$171 million in grants and loans to deserving programs. However, our fiscal year 2003 omnibus appropriations bill appropriated \$300 million for the general program and another \$80 million for providing broadband infrastructure to underserved rural communities. In other words, in three-quarters of the year, we have obligated less than half of the total appropriations. Perhaps this should be a suggestion to our appropriators that with our current deficit problem this program will not require all of these funds in fiscal year 2004.

Again, I would like to thank Chairman Goodlatte for holding this hearing today on an excellent program supporting our rural communities.

The CHAIRMAN. At this time, it is my pleasure to welcome our first panel, the Honorable Tom Dorr, Under Secretary for Rural Development of the U.S. Department of Agriculture, who is accompanied by Ms. Hilda Legg, the Administrator of the Rural Utility Service of the U.S. Department of Agriculture.

Mr. Secretary, we are very pleased to have you with us, and we would welcome your testimony. Your full statement will be made a part of the record. And thank you for joining us today.

**STATEMENT OF THOMAS C. DORR, UNDER SECRETARY, RURAL
DEVELOPMENT, ACCOMPANIED BY HILDA LEGG, ADMINIS-
TRATOR, RURAL UTILITY SERVICE, U.S. DEPARTMENT OF
AGRICULTURE**

Mr. DORR. Thank you, Mr. Chairman. It is a delight to be here, and I hope that we can both shed some light and work together on this particular issue.

Mr. Chairman, members of the committee, I do appreciate the opportunity to come before the committee to testify on behalf of the U.S. Department of Agriculture regarding the benefits that Rural Development's Distance Learning and Telemedicine Program brings to rural Americans, while simultaneously suggesting ways in which this program might be strengthened.

USDA's Rural Development Agency is becoming recognized as the ventureist capital for rural America. Our mission is to increase economic opportunity and improve the quality of life for all rural Americans; this program—that Distance Learning and Telemedicine Program exemplifies that mission.

USDA's Distance Learning and Telemedicine Program is administered by Rural Development through its Rural Utilities Service. The purpose of the program is to improve the quality of education and health care in rural America. This can be accomplished by using technology to enhance the availability of medical services and to improve access to educational materials, forms, and other opportunities.

Telemedicine projects are providing new and improved health care services. They run the gamut from enhancing access to more sophisticated patient diagnostic and surgical procedures to enhanced postoperative treatment. New advancements are being made in the telepharmaceutical and telepsychiatric arenas by providing health care options never before available to many medically underserved, remote, and rural areas.

Our distance learning programs also continue to provide funding for computers, as well as Internet access, in schools and libraries. The vast array of study options available to rural students through distance learning technologies literally brings the world to their doorstep. The value of these services to rural parents, teachers, doctors, and patients clearly improves the quality of life for the residents of these rural areas.

The deployment of advanced communications technologies to rural and sometimes isolated health care centers enables them to help overcome the barriers of distance remoteness and time that frequently confront rural physicians and patients. One specific example of which I am aware demonstrates telemedicine's life-giving role.

Dheva Muthuramalingam was born with respiratory problems and a heart murmur in a small community hospital in West Virginia on December 30, 1999. As a precautionary measure—and interestingly, as you will remember, as the world stepped into the new millennium, when we were all fearful that the technology was going to fail on January 1, 2000—Dheva was transferred to the Winchester Medical Center in Winchester, Virginia, for diagnosis. Dheva was seen by an adult cardiologist. As is sometimes the case in rural areas, the appropriate specialist is not always available. While the doctor determined that Dheva had a hole in his heart, it was apparent he was exhibiting other symptoms not associated with the initial diagnosis. Further expertise was required. Hence, plans were made to transfer Dheva to the University of Virginia Hospital for further testing.

But fortunately, before transferring Dheva, the doctor at UVA had the ability to review Dheva's heart ultrasound test, which was

transmitted via the telemedicine connection, and the specialist at UVA diagnosed a rare congenital heart defect requiring immediate medication before the transfer occurred. Medication was prescribed, and the local medical center was able to stabilize Dheva for safe transport. The doctors believe Dheva would not have made or survived the trip if the telemedicine diagnosis had not been made.

The next day, Dheva underwent successful surgery, and I have seen him—via live audio feed last January—and I can assure you he is an active, happy, living testament to the benefits of telemedicine.

Consultation, diagnosis, and the appropriate medicinal prescriptions were provided via a sophisticated Internet hookup several hundred miles from the patient. This system delivered life-saving medicine to the future of America, a young child.

Or, consider all across the country the many rural school systems like Quitman High School in Mississippi, which provides multiple benefits to the community through the deployment of distance learning services. During school hours, three remote school districts, in this particular case, are linked together to share valuable teacher resources while providing interactive curriculum opportunities. After hours, when the schools are not using the system, it serves as a community tool available to the residents for their life-long learning opportunities.

When this technology is incorporated into the school system as a result of our grant and loan programs, we also bring it and its benefits to the entire community. For instance, public health and safety officials often use a school's distance learning facility to take recertification training or to receive continuing education classes required to maintain certification.

Our focus here today is on the benefits of distance learning and telemedicine services. In reality, the benefits often spill over into the local community and foster a better understanding of the power of the World Wide Web at home, in the office, at the factory, on the farm, as well as in our schools, hospitals, and our rural health plans.

Using a home computer, a farmer can log on and run his or her business. He or she is able to plan their workday by tracking weather patterns; they might also buy or sell commodities on the open market. And all this helps them to participate in the global digital economy where they must compete.

The spouse, frequently a school teacher, may attend college in the evening to receive a degree in working with children with special education needs.

All this is an example of the synergisms that these advanced technologies create. It is not an unfamiliar example where our programs have assisted in providing access to the technological infrastructure necessary to make it possible.

These are remarkable stories of this partnership, that which Congress, USDA, and rural America helps make real every day. And, further, the encouraging news is that advanced telecommunication networks will enable rural communities the opportunity to become platforms for new businesses to compete locally, nationally, and globally. It brings access to risk, and, therefore, opportunity to

rural America. This opportunity may be what is necessary to entice young people to stay, return to, or to move into rural areas.

But despite these successes and others like them, there are many challenges before us. In the 10 years that this program has been providing funding, as you indicated in your opening statement, \$173 million has been made available to over 500 projects in 45 States and four territories. While this is a tremendous amount of public investment, which leverages private and local investment as well, more could be accomplished. We are continually reviewing the program from an administrative point of view to see where improvements can be made within the legislative boundaries in which we operate. Most recently, in fiscal year 2002, we reduced the matching requirement to enable more schools and hospitals—we reduced the matching requirement from 30 percent to 15 percent to allow these schools and hospitals, particularly those from remote communities, to benefit from the program.

One critical impediment currently exists to funding certain telemedicine services on tribal reservations. In many instances, the health care facilities on reservations are owned by Indian Health Services, or IHS. Since IHS facilities are considered Federal facilities, these clinics are not eligible for RUS's distance learning and telemedicine grant funding. Therefore, many native Americans will not be able to benefit from the improved health care opportunities that the DLT grants enable without legislative amendments that will enable such funding.

One other issue needs to be pointed out. In the 10 years of operating this program, it has become clear that the demand for loans in this program is very small. Only 10 percent of the total investment has been in the form of loans. This is primarily due to the types of entities that are eligible borrowers, namely, schools and health care providers which serve these rural areas. In most cases, schools are prohibited from entering into loan agreements because they are not able to generate revenues to repay the loan, even if they could.

In addition, the high cost associated with the provision of rural health care limits the feasibility of telemedicine loans. While universities and hospitals may look to the loan program for funding to construct or rehabilitate buildings, the 10-year required repayment period proves to be a financial burden. The paradox is that while telemedicine offers a means to reach the most isolated and poorest residents of the country, there is not always a means for cost recovery.

So, in conclusion, this hearing can set the stage to facilitate an increased awareness of both the opportunities and the dilemmas of these programs. As with any new technology, the ingenuity of the user always develops new opportunities and demands. How to maximize them, while understanding how to mitigate the cost, is the challenge.

I appreciate the opportunity to testify before this committee today and to hopefully bring into focus some of the rewards this program offers, as well as some of the challenges it faces. Thank you, and I look forward to any questions you may have.

[The prepared statement of Mr. Dorr appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Secretary Dorr. We very much appreciate your contribution.

And I must tell you that I have had the opportunity to visit the University of Virginia Telemedicine center, thanks to Dr. Rheuban, who will be testifying in the second panel, and seeing firsthand the work that they do and the valuable service they provide all across my congressional district and some of the other rural congressional districts in Virginia.

Let me ask you—I am pleased to hear your strong support for this program—how have the resources that have been made available to you held up in comparison to the demand? Do you have a large backlog of requests for new projects or are you fairly current?

Mr. DORR. Well, last year at this time, I think for the entire year we had 166 applications for the program. I checked this morning. I wasn't able to find out how many dollars were unfunded. As you are well aware, we have been authorized \$27 million for the program each of the last 3 fiscal years, including this year. What we typically do is set aside \$10 million of the \$27 million to be used as matches against loan applications; and then as we come on to the end of the year, when those funds aren't used, we put them back into the pool and they go out as grant funds.

This year, presently we have 236 applications for grants involving \$83.2 million in requests. So clearly we are oversubscribed by nearly 3 to 1. We did change, as I indicated earlier, the match requirement, and we think that perhaps facilitated the increase in the applications. But clearly it is a strong subscription to the program.

The CHAIRMAN. Do you know if there are any funds available from other sources, or are there any funds, for example, through the Department of Education or Health and Human Services for this, for distance learning and telemedicine?

Mr. DORR. I am aware that there are certain funds available at Health and Human Services. But exactly how they fit or dovetail into this program, I don't know. I will tell you, quite frankly, that I am in the process of initiating some discussions with those folks over there to try to determine where there are areas that we could effectively work together.

The CHAIRMAN. It probably would be good to coordinate so that, depending on what kind of funding is available, if there is more coordination between these departments, you might meet more of those oversubscribed demands.

What about a fee structure? Is there any fee structure used in the program currently? And is a fee structure a viable way to offset some of the administrative costs here?

Mr. DORR. It is my understanding that there is presently no fee structure in place. It would perhaps make some sense to look at the utilization of a fee structure. I am not sure how that would work relative to the statute, as we presently interpret it.

Ms. LEGG. This is just a direct grant to the recipient. So there has been no discussion about establishing a fee structure. It could be an issue in the loan, the lending part of the program that was determined.

The CHAIRMAN. Would you look into that and let us know if you need any further authorization in order to do that? And obviously

we don't want to price people out of the market, but if there is a way for modest fees to apply to help stretch what we are trying to do here, we want to know whether there is any feasibility of doing that.

[The Department responded for the record:]

Does the Agency have the legal ability to impose a fee?

An Agency must be given specific authority to collect a fee for one of its programs. In addition, in order to use that collection for the program or for administrative costs of the program, specific authority for that purpose must also be obtained (otherwise the fee would go to Treasury).

Are there any benefits to imposing a fee structure in the DLT program?

Probably not. Even a relatively high fee assessment of one-half to 1 percent (the Federal Financing Bank only charges one-eighth of 1 percent) of the amount of grant funds awarded would only yield \$125,000 to \$250,000 per year, based on a \$25 million grant program (the administration's proposed fiscal year 2004 level). This would do little to offset administrative program costs and would probably be more detrimental to the applicants most in need of grant funding. For instance, costs for salaries and administrative expenses are not eligible under the DLT program (by statute) and must be borne by the grantee. These costs are oftentimes significant for small, rural communities, since there is a "minimum" amount of administrative expenses that must be borne regardless of the size of the applicant. Additionally, the grant program requires a matching contribution, a component that helps strengthen to project and leverage Federal investment with local contributions. Applicants receive points for matching contributions above the minimum requirement; thus, a fee could take away much needed matching funds and cost an applicant valuable scoring points. A fee structure will also have a disproportionate negative effect of the most rural and economically and resource challenged applicants, as those entities would be least able to afford the fee.

The CHAIRMAN. Now, my staff has taken the opportunity to print out the application documents for the DLT program. And anybody else who does that is going to get a series of documents that are about three-quarters of an inch thick, and it is printed on both sides of the paper.

Why is it so large, and have you considered providing a more concise, simpler application package?

Mr. DORR. I would defer to Ms. Legg.

Ms. LEGG. Mr. Chairman, one of the wisest, one of the things that we have encountered is trying to give as much direction and guidance, because this is a nationally competitive program. And many times the folks who apply for these grants are doing 100 other things, as you can imagine—running school systems and running clinics.

What we are trying to do is give them every detail that is imaginable, to make sure that when those applications come in, they have every bit of information that they need and that it is a correct and a competitive application.

As Mr. Dorr mentioned, three times the demand for the money, and when you start weeding through the applications you sort of—you know, you have to weed them out in some way. So one of the reasons is that we are trying to give them every bit of information so they come in in a competitive way.

Also, we have the criterion that, of course, is—this is a legislative criterion, so we have to give them all the background, all the detailed information as to the legislative requirements that are necessary and must be addressed. So it is an effort to inform them as thoroughly as possible, to ensure that the applications can be as competitive as possible for the money that is there.

We are obviously looking at putting these on-line, just to let you know.

The CHAIRMAN. So you think you are helping the process by providing an abundance of information and not adding an additional burden. And this is not something that we mandated. The length of this application is not coming from the law itself; it is just your attempting to help them provide a more competitive grant application?

Ms. LEGG. That is the intent, to give them as much information as possible, yes, sir.

The CHAIRMAN. Thank you.

The gentleman from Texas, Mr. Stenholm.

Mr. STENHOLM. In your testimony, you stated that Rural Development reduced the matching requirements for the DLT program grants, which I understand is now 15 percent.

What were the reasons for lowering the matching requirement?

Mr. DORR. I will allow Ms. Legg to further amplify or embellish this, if necessary. My sense was that what we were finding with the 30 percent match requirement, we had a number of school districts and a number of areas that were remote, that had diminished resources, that were being placed out of competition for these particular grants; and as a result, this was a way to make it possible for those areas that this program was specifically designed to serve to more effectively be able to attain these resources.

Ms. LEGG. And, Congressman, as well—these applications and the applicants have a lot of other costs as well.

We, in our grant application, basically fund the hardware, if you will, the technology, the equipment. You have operating costs, you have connectivity costs. And those costs then—and this would also relate to Chairman Goodlatte's question on fees.

When we looked at what the applicant has to do in addition to the equipment to run these facilities, to continue to operate them, we felt that requiring that much, a 30 percent match on the front end, in addition to those operating costs, would actually keep some of the rural communities from being successful. So in order to not just put the equipment out there—the worst thing we can do is put the equipment out there and not allow the ongoing operation of that facility with education or telemedicine. So it was to help give them more resources to continue to operate.

And that was the reason we did that, to give them a better opportunity to be successful in the long run, sir.

Mr. STENHOLM. Makes sense.

Is the matching requirement statutory or regulatory?

Ms. LEGG. It is regulatory.

Mr. STENHOLM. In your opinion, should you have the authority to waive the matching requirement in certain circumstances, or do you already have the authority to waive it under certain circumstances?

Ms. LEGG. I don't know. I have would to ask if I have the authority—I will get back with you—to waive it.

The indication is again, sir, that we have so many worthy applications that there—the commitment from the local entity is so important to maintain, again, the long-term sustainability. So we feel that that local commitment, whether they fund-raise for it, how-

ever they do it, it shows the commitment of that local entity to maintain a long-term, operating facility. And we think that is important in terms of the future.

Mr. DORR. Congressman, I would just simply comment that I think it is important that we retain some level of ability to force the commitment from the community to assure that there will be a sense of responsibility to make these institutions functional.

Ms. LEGG. My staff tells me that we do have that. But national competition is, again, as Mr. Dorr says, a huge issue.

Mr. STENHOLM. And, Mr. Secretary, I certainly would concur that there needs to be some investment. Anything that is made free is going to be used and abused.

By the same token, in our rural communities, if we are truly going to leave no child behind, then this technology—hardware, software and all that goes with it—must be made available to the children in the schools which we are talking about or they will be left behind.

And in the field of medicine, one of the most efficient ways to bring health care to rural schools is through telemedicine, and the portability of some of this technology and the quality of some of this technology today is just astounding. And this is an area—and, again, why the subject is here and why we put it in the farm bill: The farm bill is more than farm programs; it is rural America. And this is one of the best examples of how we can take our Nation's resources and multiply them, in this case either into health care or into the education of our children.

The CHAIRMAN. I thank the gentleman.

Mr. Stenholm and I need to go over to the floor to manage a couple of bills, so I am going to recognize the gentleman from Ohio, Mr. Boehner, and then ask the gentleman from Texas, the other gentleman from Texas to take the Chair. We are going to bring him in, baptism by fire, and he will conduct the rest of this panel. When we reach the end of this panel, and all the questions are asked, if I am not back by then, then we will take a recess. But at this time I will recognize the gentleman from Ohio, Mr. Boehner.

**STATEMENT OF HON. JOHN A. BOEHNER, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF OHIO**

Mr. BOEHNER. Thank you, Mr. Chairman, for convening this hearing. This is a program that does, in fact, help rural communities. When you look at the plight of rural communities, what we can accomplish with the Internet and greater flow of information, telemedicine, to rural communities could be, in fact, the lifeblood to bring many of these communities back.

Recently, the Education and the Workforce Committee, which I chair, has spent an awful lot of time and energy channelling resources for education specifically to rural areas. In the 107th Congress, our committee approved and the House passed the Internet Equity and Education Act, involving distance learning and higher education. Specifically, the bill sought to allow schools to offer more than 50 percent of their classes by telecommunications if they satisfied qualifying criteria.

Additionally, it sought to permit schools to offer four credit classes over the Internet during a nonstandard term, or a period of time

during the class year, as part of the 12-hour rule that has since been included in the Department of Education regulations.

The 50 percent rule will likely be incorporated, I think, into the higher education reauthorization process.

In addition, as Mr. Stenholm and Mr. Goodlatte mentioned, the No Child Left Behind Act now in effect for the last year and a half, provided unprecedented flexibility for rural schools to combine funds and resources to meet their own unique needs. Funding for No Child Left Behind in the amount of \$168 million is targeted to rural areas to leverage other resources, and furthermore, rural schools can transfer money out of their non-Title I programs to meet their highest priority needs in their schools, whether it be teacher training quality or technology. But all schools have the technology pot of funds based on their free and reduced lunch, and that program continues to grow.

And so I want to really follow up on the point that was made or the question that Chairman Goodlatte mentioned. And that is, given the size of this program and given the track record of where the appropriators have been, it seems to me that the most effective way to use this money is to leverage this and to bring more synergy between this program and programs on behalf of the Department of Education, resources that we provide local schools and States. And considering how the Congress usually works, my guess is, there are similar programs in virtually every department of the Federal Government.

Now, having consolidated about 63 Federal job retraining programs back in the mid-1990's, and those are the only training programs in our committee—every other committee has got their training programs. I suspect there are many programs providing a lot of resources, and until we bring some synergy to all this, I think our individual efforts are likely to not be as successful as they could be.

And so I would ask all of you, I heard the response to Mr. Goodlatte's question about, does it appear to be a great deal of synergy today. But I would encourage you to work with these other departments, and I will encourage the administration to take on the task of trying to bring greater coordination and cooperation amongst these various programs, once we identify them, in order to make all of the programs more successful than I think they can be on their own.

Mr. DORR. I think your point is well taken, Congressman. One of the things that was most apparent to me when I became the Under Secretary of Rural Development is that there was, as the proverbial term that is used in this community says, a lot of "stovepiping" just within our own programs. And I have made it a very significant effort—I am making a very significant effort in our organization, because, interesting enough, at the State level, many of our programs—many of our State directors and our managers at the State level are working very effectively at cross—interagency cross-purposes with one another on projects that make a lot of sense.

We are involved at Rural Development in attempting to do this and to make sure that our programs are interactively leveraged with one another, as well as in and outside of the department. I

can't specifically point to it, maybe Hilda or Bobbie can. But I do know that in a number of our energy initiatives and a number of other value-added development or other programs we are structuring those specifically so we communicate with other agencies—Department of Energy, Commerce, others—specifically to make sure that we are doing things that effectively leverage these resources.

I couldn't agree with you more that we must do more of that. We intend to do that. I don't know that we will get it done as promptly and as rapidly as you would like, but it is clearly something we must do.

Ms. LEGG. I could just briefly follow up on that in respect to the loan programs, specifically, the Distance Learning Loan Program. I think that is a great opportunity for us to leverage the dollars. And an example would be the staff and I again this week have had meetings with the Appalachia Regional Commission folks, who have a telecommunications initiative, to look at how their grant monies, our grant monies and our loan monies could again be packaged, if you will, as Mr. Dorr would say, at that local or State level to put some of our—get our loan monies out the door.

The RUS finds itself in somewhat of a unique position in that we have always had a backlog, we have always had more applications than we have ever had money, which is still very true for our grant money.

In the loan category for Distance Learning and Telemedicine, it is a different story, and that challenges us to follow your recommendations, Mr. Dorr's leadership, in trying to reach out and tell our story to a wider audience and sort of market, if you will, what we have in order to leverage it.

So, yes, sir. It is something that we are very seriously looking at and, in some ways, we are already involved in with certain entities, such as ARC.

Mr. BOEHNER. Good luck.

Ms. Legg. Thank you.

Mr. NEUGEBAUER [presiding]. Thank you, Mr. Boehner.

I recognize the gentleman from Colorado, Mr. Udall.

Mr. UDALL. Thank you, Mr. Chairman. I want to thank the witnesses today for taking time out of your schedule to be here with us.

I represent a district that includes some of the Denver suburbs in Boulder County where the University of Colorado is located. But I also have a number of mountain communities to the west, and I am curious, Ms. Legg, if you know of any projects under way in the ski country and the mountain areas, the ranching areas of western Colorado.

Ms. LEGG. In our Distance Learning and Telemedicine Program?

Mr. UDALL. Yes.

Ms. LEGG. The application date for this year was—May 5 is when we closed. They are currently being screened by the staff, and then I get a list that says, here are the eligible ones, I will get back with you, sir, if there are any in your portion of the State.

Mr. UDALL. I would very much appreciate that.

[The Department responded for the record:]

Distance Learning and Telemedicine Projects-Colorado

For fiscal year 2003, only one grant application was submitted from the State of Colorado. The Haxtun/Holyoke Distance Learning Consortium which is comprised of the School Districts in the communities of Haxtun and Holyoke in Phillips County, Colorado. The grant is intended to allow the school districts to offer K–12 courses that can leverage teachers to provide enhanced coursework and improve the quality of education to its students. Advanced and core curricula will be offered including mathematics, foreign languages, English for the Hispanic population and Advanced Placements courses.

Mr. UDALL. And we have a diversified, if I could say, rural economic initiative under way. And, in fact, some of the counties that I represent have traditional ranching and farming activities but also have an increased tourism sector. But with that, you have a lot of people involved in servicing. People come from all over the world to enjoy Colorado, and they, of course, need medical attention, and they also, many of them, are looking to expand their skill set. So both the telemedicine and DLT aspects of what the RUS does is very important to people in those areas.

Would you restate for me—and Under Secretary Dorr, if you want to comment as well, I would appreciate it—what the challenges are, as you see them, in making this program wide-reaching and as effective as possible? And in that context, explain to me again, what are the grants and the efforts that we are putting forward for infrastructure development and/or operating support?

Mr. DORR. The grants that we are making to support infrastructure development are usually hard assets, excluding bricks and mortar. They don't cover operating expenses. They can be leveraged that way within the program framework, but not in the direct grant program.

This whole issue of building out the kind of technological infrastructure necessary to provide access to the medical care, the educational opportunities, et cetera, throughout many of these rural areas is really a very complex and interesting one. It is complex from the standpoint that there are certain States that have done a lot in this area; and sometimes the market demand for the services that they provide doesn't fulfill the expectation simply because people aren't geared up to deal with it at that time.

On the other hand, there are sometimes technologies that perhaps are somewhat less expensive, but not clearly recognized, and I have found sometimes, perhaps not even falling within the definition of broadband, such as wireless satellite, uplinking and downlinking. And I know of a firm actually headquartered in Des Moines, Iowa, called Prairie I-Net that is developing some very fascinating technology, using a combination of both wire and wireless, that seems to be pretty effective. Clearly, the thing that will drive a lot of this is the market.

When I was in my farming operation, we actually had our own local area network on the farm. We were trying to get access to broadband and the difficulty was that we were not able to get enough bandwidth out to the farm without laying a special cable, and we didn't have access to wireless.

These things will happen, but the market will be somewhat reflective of it.

Mr. UDALL. If I might add, before Ms. Legg responds as well, I appreciate the mention of Prairie I-Net. Although they are based in Iowa—and I don't know if any of my colleagues from Iowa are

here—some of the venture capital involved is from Colorado, and I have been watching that company with great interest. I think they have enormous potential.

Mr. DORR. They do.

Mr. UDALL. Ms. Legg, I don't know if you would have other comments.

Ms. LEGG. Unless you have a specific question, I think Mr. Dorr covered that one very well.

But I would just encourage, if you have folks that are interested in the broadband program, we do have a significant pool of money to lend out to take that broadband capacity. We would very much like to talk to anyone in your area that would be interested in that loan program.

Mr. UDALL. If I might, I would like to follow-up. And perhaps we can find some time together to follow up in a way that would be helpful to my district.

Ms. LEGG. I would be glad to.

Mr. UDALL. Mr. Chairman, I want to thank the witnesses again, and would yield back any time I have remaining.

Mr. NEUGEBAUER. Thank you, Mr. Udall.

The gentleman from Kansas, Mr. Moran.

Mr. MORAN. Mr. Chairman, thank you very much. I don't have any questions of either of our witnesses today. I do appreciate the questions that have been asked previous to my time.

But I would like to just express my strong support for the programs, express publicly my appreciation to both the Under Secretary and the Administrator for their support for projects within my State, and their particular personal interest that they have taken in coming to Kansas to participate in a number of programs, to see how progress is being made and to see the accomplishments that the program provides Kansas and its citizens.

Health care in rural America is a huge issue, and access to health care is very difficult. Distances are far, professionals are absent, and the technology that your programs are providing are and will continue to make a significant difference.

And in education, there is no greater opportunity we have as public officials than educating another generation. And again, the distances and lack of professionals that we face in rural communities across our State in part is being addressed by the programs that you administer.

So, again, just expressing my appreciation for the programs, but especially with these two panelists here today, just acknowledging the personal interest that they take in seeing that the program is well administered, and that they come and see the success and hear the stories and they are there in a very hands-on way. And I am very grateful for that.

I appreciate the approach that you take to the program that you administer.

Thank you, Mr. Chairman. I yield back the balance of my time.

Mr. NEUGEBAUER. Thank you, Mr. Moran.

The gentleman from North Carolina, Mr. Ballance.

Mr. BALLANCE. Thank you, Mr. Chairman. Thank the panelists.

I would like to know whether or not, as an example—and this is a bit new to me; I am a new member—a rural health center

would be the type of applicant that could apply for either a grant or a loan under this program, and if there are examples—you may not have them, I know. My district is rural eastern North Carolina, about 23 counties, and there are a lot of health centers out there already. I am just wondering if they are the types of organizations that could, in fact, be applicants or are already applicants.

Mr. DORR. They surely are. And that is a great example of the kind of cross-leveraging we can do, because within our community facilities programs we are actually able to make direct loans for the development and the build-out of health care facilities in these rural communities. And then, through this program, we make grants to foster the build-out of some of these technologies that enhance the capacity of that rural health clinic in that particular area.

So, yes, in fact, they would qualify, this sort of thing would qualify; and it is a good example of the synergies between the two programs.

Mr. BALLANCE. Mr. Chairman, that is all I would have. Thank you very much.

Mr. NEUGEBAUER. Thank you, Mr. Ballance.

The gentleman from Nebraska, Mr. Osborne.

Mr. OSBORNE. Thank you, Mr. Chairman. And thank you for being here today.

I had a couple of issues here, and I think you indicated that there was \$27 million authorized in this program and usually \$10 million was reserved for loans. But I gather that in many years not all \$10 million was used for the loan and was, therefore, reallocated to grants.

Mr. DORR. That is correct.

Mr. OSBORNE. About how much of the \$10 million would you say is used for loans and how much is not used? And I know it varies year to year, but on an average.

Mr. DORR. I think it is something under \$1 million, \$1,250,000 that are—of the funds that are ever actually used in the grant loan match.

In fiscal year 2002, we approved a total of \$15.1 million of loans, and it was on a 10 to 1 match, so there would have been \$1.5 million of the \$27 million that actually went into that loan program. And in fiscal year 2003, so far, we have only approved \$7.1 million in loans.

It is not because we don't want to approve more; it is just that there aren't the applications.

Mr. OSBORNE. Well, I would suggest that we might want to look at the structure, because if it is underutilized—and I know you already dropped the amount of equity repayment from 30 percent to 15 percent, so I know that there must be a problem here—that might be something we look at.

There are a couple other things I want to mention to you. I think in most rural legislation—and “rural” is defined as communities of 50,000 or less, and I don't know how this translates to this legislation here. But I had a young woman in my office yesterday, and she was a junior, in her junior class of four people; and, to me, this is what rural really is. You know, you are talking about schools with less than 100 students.

And what I have noticed is that so often schools like this do not have access to grant writers, they don't have people who feel that they have any confidence of getting a grant. And so I would suspect that a lot of the money that we are talking about here may go to areas that are not quite as rural as this young lady came from.

And so I don't know if you have got anything in your system that would better encourage or better enable people from truly rural and impoverished areas to get access, because in this young lady's school, for instance, there is practically no chance of having someone who teaches German or French or Spanish or physics. And so distance learning is the only chance they have got to have that type of education.

So I would just encourage you to think about this issue and to see if you have any thoughts or any solution to that problem, because so often grant money is swallowed up by people who have a need, but not as great a need as some of the other people who just don't access the money.

Mr. DORR. Certainly. First of all, the thing that was a bit befuddling to me, but that I learned after I got into the position, is that there are a number of different definitions of "rural" in this particular case, with the DLT grants, "rural" is defined as 20,000 or under. So we are not at the 50,000 limit.

Secondly, I was a little bit chagrined to understand that our application involved three-quarters of an inch worth of paper on both sides, and I frankly can ensure you we will discuss that after the hearing to see if that can't be resolved to some extent.

And aside from that, I empathize with what you are saying, and I think we need to be sensitive to that, because there are a lot of areas of the country that have these issues that have to be addressed in a different manner.

The one thing that we are doing with our State Rural Development directors—and we are finding that a number of the grant programs required grant-writing skills and capacities—we are urging all of our folks to communicate with their peers in other States that, for whatever reason or another, seem to do a better job of obtaining grants on specific programs because they have clearly defined and developed an effective grant-writing mechanism. And I think that is one way we can help perhaps make these folks—put these folks in a more competitive position; and we are discussing that and doing what we can in that area.

Mr. OSBORNE. My time is up. I would just like to leave you with one last comment.

You know, in some of these schools the, superintendent also drives the school bus and he coaches the volleyball team. And for that guy to fill out a three-quarters of an inch application, he just doesn't have the time or the resources. So it may be that some type of technical assistance or some type of network where these people are given some help would be very helpful.

I yield back, Mr. Chairman.

Mr. NEUGEBAUER. Thank you, Mr. Osborne.

The gentleman from North Carolina, Mr. Etheridge.

Mr. ETHERIDGE. Thank you, Mr. Chairman.

Mr. Secretary, welcome. Thank you for being here. Let me follow the conversation that the gentleman from Nebraska just had. And I appreciate you being here.

This afternoon, or later today, we will hear from Dr. Patterson, who is the vice president for rural and community health at Texas Tech, and—some interesting things in her testimony. She states that the scoring methodology for applicants for DLT grants favors applicants who can bring 150 percent matching funds, while the program only requires 15 percent.

My question is, is the competitive nature of the grant program resulting in these poorer communities not getting in just because they can't bring it to the table?

You know, if you are going to use a scoring system that has this in place, it doesn't make a difference if you drop the number to 15 percent. If you have got to bring the numbers up to 150 percent, you are going to give to those who have the greatest ability to show a matching fund.

And, second, you have just touched on the issue of how thick the grant application is. I ask this question, because prior to coming to this body I was the State superintendent of schools in North Carolina. And unlike Nebraska, we have a State school system where the State can help.

But if you are going to help rural systems and you ask them to do paperwork this thick, I know where that is going to find itself when you get there. It is going to be in the round file; you will never get that application back.

It seems to me, rather than giving people help in preparing an application, we need to take the resources we have in the U.S. Department of Agriculture and simplify an application. That would be a lot simpler, save everybody a lot of time, and I think expedite a lot of things.

If you would comment on that, please, sir.

Mr. DORR. Well, as I indicated, Congressman, I am very sensitive to this three-quarters of an inch thick application issue, and I agree with you. I would defer to Ms. Legg in terms of some of the competitive scoring criteria issues that are used.

But let me assure you that we are going to look at that in conjunction with—we are aggressively pursuing one of the President's many management initiatives, but one is e-gov and electronic filing. And that intention is to simplify much of this. So it is our hope that that will be the result.

On the criteria, Hilda, you may have some other things you care to—

Ms. LEGG. Yes, sir.

I think in looking at the criteria, obviously the need is one of the criteria. Reality is a criteria. Economic need may be assessed by the school lunch program participation, which I think would address some of the communities, the constituency that you all are speaking of would have that as a significant scoring criterion, as well as innovation and cost effectiveness.

While you are correct in saying that the more match you bring to the table, that does improve your competitive score overall, that is very true. Because, again, it is a national program. You take as many dollars and put them in as many communities as possible.

But, also, the more rural you are, the higher the score. You get extra points for that.

So it is trying to balance rurality again with that local commitment of helping to bring more funds to that project for long-term sustainability and, at the same time, taking that \$27 million and helping to stimulate the opportunity in as many communities throughout the United States as possible.

As to the thickness of the application, which I obviously feel I am going to have a meeting very quickly, too, after my address with the Under Secretary on, again I would just reiterate that the intent—personally, I come from a very small rural community. We didn't have grant writers. I was a schoolteacher many years ago. I understand what you are talking about.

That was the purpose of laying out all of the detail, is to enable some dedicated school professional or medical professional who is willing to wade through all of the criteria that is laid out legislatively and all of those details to simplify and to get that application in a competitive mode.

So while we will certainly be looking at that, I must assure you that the intent has been to enable those nonwealthy or those more economically disadvantaged areas to compete competitively, because it is a limited pool for a national competition.

Mr. ETHERIDGE. Let me close by encouraging you to do that. Because it has been my experience over the years that the bigger a document is the more intimidating it is for people who are not accustomed to doing it every day. It doesn't mean they aren't intelligent or they aren't capable, it just means that when we develop documents—this has been my experience in 8 years in working with it—we tend to take the old one and not rework it, just take some—add some pieces to it; and, over time, it gets much larger than it was meant to have been. And I think a review of that might be helpful to everyone.

Thank you.

Mr. NEUGEBAUER [presiding]. Thank you, Mr. Etheridge.

The gentlewoman from Colorado, Mrs. Musgrave.

Mrs. MUSGRAVE. I don't have any questions. Thank you.

Mr. NEUGEBAUER. The gentleman from California, Mr. Nunes.

Mr. NUNES. Thank you, Mr. Chairman.

I really don't have too many important questions for the Under Secretary, but I do want to credit him for the fine job that he is doing. In my prior life, I actually worked for Mr. Dorr; and I want to say that—how do I put this politically correct—you are getting a raw deal in the Senate. I hope that the Senate will quickly reconfirm you, I guess.

I don't know if this is the right place or the right time, but if you want to, you are willing to comment on your current status as it deals with the Senate, if you would like. If not, you have no reason to. Thank you.

Mr. DORR. I think it would probably best serve me just to let circumstances play out as they will.

Mr. NUNES. Well, Mr. Dorr, if it does any good, I strongly support your reconfirmation.

Mr. DORR. I appreciate that very much. Thank you.

Mr. NUNES. Thank you, Mr. Chairman.

Mr. NEUGEBAUER. Thank you, Mr. Nunes. The gentleman from South Dakota, Mr. Janklow.

Mr. JANKLOW. Thank you very much.

Mr. Dorr, you probably won't get confirmed. You are competent.

Mr. DORR. Thank you for the encouragement.

Mr. JANKLOW. If I could, sir, as I have looked at the testimony, and I also read the testimony of Dr. Rheuban, it appears in Virginia there were paying \$5,800 a month for a T-1 circuit in 1995; and they say now with Universal Service Fund discounts it is \$320. It is unbelievable that anybody would have ever, at any time, charged \$5,800 a month for a T-1 circuit. One of the problems I think with rural education, distance learning and telemedicine is the pricing of bandwidth.

I think, as you folks know really well, there is not competition for bandwidth in great expanses of America. The Telecommunications Act that was passed several years ago, as a matter of fact, historically, there hasn't been any competition allowed in certain of the rural service areas. The net result is there has been no negotiation of any substance with respect to bandwidth. Don't you really think, Mr. Dorr, that to the extent that we can get bandwidth available at a reasonable price, an awful lot of these things will develop themselves?

Mr. DORR. I think you are absolutely right. I mean, I think bandwidth is the issue without equivocation. I alluded to it—I started to ramble a bit here a minute ago. But when I was still back operating our farming operation at that point, trying to get the T-1 bandwidth you were talking about was going to cost us somewhere in the neighborhood of \$3,500, if we could get it, a month. Obviously, it was not cost effective.

But a lot of these things are changing. They are becoming more competitive.

I discussed the Prairie INET Initiative.

Mr. JANKLOW. That is part of it and also even DirecTV, some of those others. But as long as you have got to go wire out, you are going to run into a problem. To the extent you can go wireless, wireless and WIFI may be an answer for some of these issues. And VPN, frankly, may be an answer. There are huge changes taking place in technology.

I do think that one of the restrictions that you have—that one of the reasons your loan programs aren't effective is because it is hard to buy—it is hard to borrow money for technologies that are changing and advancing as quickly as these are. Isn't that really kind of restrictive—isn't that putting a difficult dichotomy, where someone takes the risk of borrowing money to go out and buy technology that is really going to become very old very quickly, especially in the telemedicine area?

Mr. DORR. You are absolutely right. I equate that with my—I was telling my staff this morning my barn technology theory. If you looked at an old Sears dairy barn that was built in the early 1900's, that had a lifespan, usable technology of 70 years, followed up by the next innovation in hog-building facilities, a Cargill building, was about 20 years, followed up by the next totally enclosed building was about 10 to 12 years, followed up by the latest technology was 10 years. And now it is down to 5 years.

So when the technology depreciates that quickly, using existing tax and other structures it is very difficult to finance these in a cash-flowable manner that allows people to obligate themselves to loans. You are absolutely right.

Mr. JANKLOW. Sir, don't you think—and again reading the testimony—it only makes sense that nursing homes should be eligible, you know, and that Medicare reimbursements ought to be made? There is a requirement that nursing home patients have a doctor visit every month. In rural areas that is not just realistic all of the time.

But the advances—the technologies that are there today with respect to cardiovascular monitoring and analysis with respect to sonograms, what you can do with radiology, clearly what you can do with respect to testing of ultrasounds and those kinds of things—I mean, that is—it is present. It is here. It is very cost-effective.

Would it be helpful—it would be helpful to us if you could give us a list of the legislative changes that you folks think would be necessary based upon the experience that you have had with the program that you have operated for some period of time.

We are in a real dichotomy. You can't legislate very effectively in technological areas, because by the time you get the law in place, passed and the rules written, it is old ISDN stuff. So would you be able to provide to the committee a list of the changes that you think may be necessary to move you into the next century with respect to the legislation so that we can move forward?

Mr. DORR. Well, I am sure we would be willing to consult with your committee and your committee staffs.

Mr. JANKLOW. When you say "consult," that scares me.

My time is about up. Do you have a list that, when you drive home at night, you say, I wish we had this and we could get it done?

Mr. DORR. Well, that is—my experience here is that that is Congress' responsibility to tell us what they want us to do, and we try to implement it. To the extent that we have experience relative to the kinds of grant applications that we have not been able to fund because they are not covered by the existing statute and there is other issues, I am sure we can make those available.

Mr. JANKLOW. Will you?

Mr. DORR. Sure we will.

Mr. JANKLOW. Thank you.

Mr. NEUGEBAUER. Thank you, Mr. Janklow.

The gentleman from Minnesota, Mr. Gutknecht.

Mr. GUTKNECHT. Thank you, Mr. Chairman.

Governor Janklow pretty much said what I was thinking about. I don't really have a question as much as a concern, that you were sort of trying to push this rope up a hill, if you will.

I really do think, long term, my own view is that the real future is wireless. I think that the technology is moving fast.

I do want to make another point, though, because—and I certainly agree with my friend from Nebraska. I had a very close relative who graduated from a school. There were seven in the graduating class. I know how those schools are. I think we have to be careful not to immediately assume that those kids are not getting

a good education. I think for the most part I have been very impressed with the education some of the very small schools—in fact, I was with a youngster—in fact, two young boys—who were home schooled a couple of weeks ago. So they were in a class of three, and one of them has already graduated from law school, and he is 15 years old.

So I mean the idea that you have to go to a big school and have access to all of the modern technology, I think sometimes we get a little carried away with that.

But, in the area of telemedicine, I think there we begin to see enormous benefits very fast; and I guess my comment to you—and I would like to have you respond—is to avoid the problems that were referred to by Governor Janklow in terms of trying to force certain technologies, when technology is already starting to leapfrog that, are you having any regional conferences with some of the folks who may be affected?

I really think it would be helpful if we can get some experts together. Now it doesn't have to be in my district. It would be in Sioux Falls or it could be in Lincoln or it could be somewhere else. But it would be really helpful if you could have some regional conferences to bring experts together so that everybody knows what kind of technology is being developed and evolving out there. Because it really would be, it seems to me, incredibly expensive to make a large investment in a technology that 6 months from now is going to be eclipsed by something else.

Mr. DORR. Well, Ms. Legg may have some additional details.

I think it makes a lot of sense to have a forum-based discussion, conference of some sort to refocus on some of these issues.

I will tell you at the outset that I, frankly, believe that the market will drive those things and the market will send us the kind of signals that we need to tell us how to get where we need to get.

To the extent, however, that that marketplace doesn't always work, we have to be sensitive to these other demands. As you all pointed out today—and I think it is a little bit concerning—is to try to figure out where to benchmark these things at. Because when we went from the various wire systems out to T-1s, and then as the wireless technology evolves, it is very, very difficult to have your programs geared up to quickly adapt to them. We need to figure out ways to do that that are cost-effective and that attain the results you want. But I am not sure that we have the crystal ball to do that yet, although I think we need to pursue that more aggressively.

Ms. LEGG. Just an additional comment.

Our program—our basic telecommunications program, by law we have to be technology neutral when we are looking at it, so we let the local entity depend on what their best resource is in order to get a connection.

We do see more and more wireless applications coming into our regular program, and our broadband definition is the FCC 200 kilobit both ways. So however they reach that connection is their proposal.

In terms of some of those regional conferences, obviously, we do a lot of participating and talking and speaking, both Roberta Purcell and myself and the Under Secretary, about the programs that

we have and outreach. We are partnering on July 2 with the FCC's wireless bureau to put on a program to talk about how we can work together and to get our opportunities out there.

So, yes, we continue to do that kind of outreach and are trying to stay on top of this very fast-changing—but I think a part of what we have to do is help communities understand what the possibilities are for this at the same time.

Mr. GUTKNECHT. Well, I am going to thank you. And we may just help put together one of those conferences ourselves, maybe in conjunction with Governor Janklow or something, because I think it would be very helpful to folks in my area, where there is a keen interest in this.

Thank you very much.

Mr. NEUGEBAUER. Thank you, Mr. Gutknecht.

The gentleman from California, Mr. Dooley.

Mr. DOOLEY. No questions.

Mr. NEUGEBAUER. The gentleman from Michigan, Mr. Smith.

Mr. SMITH. The private sector in our area is implementing some forms of this kind of immediate access communication with medical advice. I was wondering—a couple of questions.

Number 1, how can we facilitate the private sector to do this, rather than select the few that are going to get this grant on somewhat of a modest budget that you folks are administering, deciding who gets it and who doesn't? Some of my areas are saying, well, we are going to put off doing it because we might get that grant. Tell me—but I want you to react to that.

But the other question is liability. Do you have a record of any liability problems that have evolved because of this type of technological help in communication?

Mr. DORR. Apparently, we do not have any record of any liability issues that have evolved out of this particular technology with regard to practice of medicine.

With regard to facilitating the private sectors into these areas, I think the easiest thing I can do is reflect on what has happened to the dot com telecom sector over the last 3 or 4 years. I mean, it has been a huge fiasco with a lot of funds that have been invested in programs that didn't always pan out.

I think it is very, very risky for us to get ourselves in a position to try to figure out how to facilitate what private sector does what. Yet I think we should also have ourselves in a position to not be a deterrent or a detriment or have artificial rules and regulations based on some perceived notion of what is correct or not at a given time. So, I mean, my hope is that our programs are flexible and responsive and yet don't try to drive the private sector.

Mr. SMITH. I hope you aren't trying to drive the high tech either. You might have mentioned that.

A lot of my schools now have gone simply to contacting a doctor and a nurse that give priority attention to their telephone call. They are calling in and saying, this is the situation. At the other end of the line, they say, well, do this and bring him in, or just do this, it is going to be OK.

I mean, that kind of communication, whether it is a telephone or whether it is some kind of an Internet communication, the technology is developing so rapidly that within the next 10 years we

will be able to put monitors on a person to check their physical conditions on a regular basis. Hopefully, it will eventually reduce the cost of medicine.

But what percent of your grant applications are approved?

Ms. LEGG. For telemedicine? It runs about 60/40, with education taking the higher percentage. About 60 percent education and 40 percent telemedicine.

Mr. SMITH. Now, are you saying that—what percent of the applications that are coming in are approved for a grant?

Ms. LEGG. Oh, what percent—well, this year we will only approve about a third of the applications that are coming in. Because that is all of the money that we will have to go around.

Mr. SMITH. There is an excellent—in panel 2 I see an excellent group of experts and witnesses coming up. Thank you, Mr. Chairman.

Mr. NEUGEBAUER. Thank you, Mr. Smith.

The gentleman from Alabama, Mr. Bonner.

Mr. BONNER. Mr. Chairman, I don't have any questions at this time. Thank you.

Mr. NEUGEBAUER. I had a question I wanted to direct to the Under Secretary, and somebody touched on this earlier, about private-sector participation. Some of the programs from my experience with working with nonprofits in the private sector and looking at grants is that there is sometimes—a lot of times—prohibitions for certain private-sector participation; and sometimes those are the folks that can bring the capital to the table and help with a lot of those programs. So what I wondered is, as you administer this program, are there some things that we can do from the congressional side that might help facilitate your ability to encourage more private-sector participation or allow more private sector participation?

Ms. LEGG. Sir, currently, we do have private-sector participation and not-for-profit participation. I think the things that you are doing today to help us get the message out about the opportunities that do abound in Rural Development USDA—I am very committed to the area of driving the demand, because, as much of our dollars are loan dollars, in addition to DLT and our regular broadband, if those applications are not good financial applications, then we have a problem.

So I think that we all have to be very committed to our personnel and our organizations helping to educate and drive the demand of this technology. And I always use the expression, being willing to have our own EKG read over telemedicine, not being fearful, breaking down those barriers.

So, again, my appreciation to everyone here for their willingness to help us tell the story about what this can do and how it makes a difference in individuals lives.

Mr. NEUGEBAUER. Absolutely.

Are there any other members of the committee that would like to ask any additional questions of this panel?

I would like to thank the panel for your testimony today. This is obviously of great interest to the gentlemen and gentlewomen in this room and particularly myself, coming from an area of the country where rural medicine is very important. We thank you for your testimony.

I am going to relinquish the chair here.

The CHAIRMAN [presiding]. I thank the gentleman; and I hear he got rave reviews on his debut.

I think everybody has finished, and I want to thank the Under Secretary and the Administrator both for their contributions here today. This is a very exiting program, and we really appreciate the enthusiasm that both of you have for carrying this forward. I want you to know that I think you can tell by the nature of the questions today there is a lot of support for that here in this committee, and we hope you will stay in close touch with us on ways that we can help you make the program run as smoothly as possible, with the maximum amount of resources and the maximum amount of efficiency.

Again, thank you for sharing your experiences with us today.

Mr. DORR. Thank you. We look forward to working with you.

The CHAIRMAN. I would now like to invite our second panel to the table:

Dr. Karen Rheuban, professor of pediatrics and medical director for the Office of Telemedicine and associate dean for external affairs of the University of Virginia Health System from Charlottesville, VA; Mr. Howard Chapman, executive director of the Saltville Medical Center from Saltville, VA; Mr. George O'Brien, superintendent of Copenhagen Central School District, from Copenhagen, NY; Dr. Patti Patterson, vice president for rural and community health of Texas Tech University Health Science Center from Lubbock, TX; and Mr. Carl Taylor, assistant dean and director of the Office of Emerging Health Technologies of the University of South Alabama College of Medicine, from Mobile, AL.

Dr. Rheuban, you have been talked about quite a bit here this morning. I must say that your reputation precedes you. I had heard great things before I ever met you. They were all confirmed when I had the opportunity to meet you, to see what you are doing and to see the infectious enthusiasm that you have for helping all manner of folks—children, prisoners, people from rural areas, people of low incomes—all who are in need of getting good quality medical care and oftentimes don't have the ability to get to a fine facility like the University of Virginia Medical Center. So the work that you have done in establishing location points all across Virginia that can communicate with you in some amazing ways are truly to be commended. So we welcome you.

We would advise all members of the panel that your testimony will be made a part of the record. We would ask that you limit your remarks to 5 minutes, except we are going to expand that for those of you who are going to give us some demonstrations of the technologies that are being used.

Dr. Rheuban, we will start with you.

STATEMENT OF KAREN S. RHEUBAN, M.D., PROFESSOR OF PEDIATRICS, MEDICAL DIRECTOR, OFFICE OF TELEMEDICINE, AND ASSOCIATE DEAN, EXTERNAL AFFAIRS, UNIVERSITY OF VIRGINIA HEALTH SYSTEM, CHARLOTTESVILLE, VA

Dr. RHEUBAN. Thank you.

Chairman Goodlatte, distinguished members of the Agriculture Committee, my name is Dr. Karen Rheuban; and I serve as profes-

sor of pediatrics and medical director of the Office of Telemedicine at UVA. It is an honor to testify here today.

Rural Americans face immense physical and financial burdens of travel for access to health care services. In many cases, such care is obtained "too little, too late." the implications of this lack of timely access to quality health care include delayed diagnoses and a higher cost of care when and if such care is received.

Rural communities suffer from high turnover rates of primary care physicians and a shortage of specialty care providers. With the tragic events of September 11 has come the recognition of the importance of rural considerations in our national state of emergency preparedness. As this committee well knows, nuclear, chemical or bioterrorist events are likely to impact rural communities in addition to urban centers. These rural communities are the least prepared to respond by virtue of their geographic isolation from medical expertise. Thus, the benefits of affordable and enhanced connectivity to our rural hospitals cannot be overstated.

In an effort to address rural-urban health care disparities in Virginia, our telemedicine program was established in 1995. We serve as the hub of a 43-site network which includes hospitals, clinics, prisons and schools located primarily in western, southwestern and central Virginia. This network was established with Federal, State, corporate and foundation funding.

To date, we have facilitated more than 5,400 live interactive clinical encounters and more than 10,000 teleradiology services, linking remotely located patients and our health professionals representing 25 different subspecialties. We have saved lives, as Mr. Dorr shared the case of Dheva who is on your screen there, supported timely interventions and spared patients unnecessary travel and expense of transfer. We regularly broadcast health professional and patient education programs.

Since the inception of the USDA DLT Program, more than 220 grants have been awarded to telemedicine projects similar to our own. However, very few telehealth providers have chosen to apply for the RUS loan programs because most telemedicine programs still struggle to maintain financial viability. Reimbursement is still not mainstream, and ongoing telecommunication costs remain high in some areas.

We are deeply appreciative to the USDA, which has funded the purchase of equipment for eight telemedicine sites in southwest Virginia. Working with the staff of the rural utility services who are truly committed to their mission of enhancing telecommunications and health care services in rural areas has been most satisfying.

I personally found the application packet not to be a problem. That was referenced earlier.

The DLT Program primarily provides financial assistance for the purchase of telehealth- and telecommunications-related equipment. However, it takes more than equipment to operationalize a telemedicine program. These grants do not support personnel costs beyond 10 percent of the grant. Ongoing telecommunications costs and institutional indirect costs are not funded. Without some level of support for these programmatic costs, even if only as matching

funds, other potentially worthy applicants have been discouraged from applying for this outstanding program.

We have been advised that the President's 2004 budget includes \$25 million in grants for the DLT Program, \$2 million less than that funded in last year's budget. We encourage Congress to provide greater levels of funding for this program.

On a related note, the telehealth community is grateful to Congress for the funding of demonstration projects in all 50 States and for mandating reimbursement through the Medicare Program.

Despite congressionally-mandated revisions of Medicare rules, many critically necessary telemedicine facilitated services are still considered ineligible for Medicare reimbursement. For example, if the consult origination site is located in a nursing home, an extended care facility or a hospice, telehealth services provided to patients at those locations are currently ineligible for reimbursement. Consults originating from many communities considered rural by USDA standards are not reimbursable by Medicare.

Medicare requires the metropolitan statistical area exclusion. Legislation recently introduced by Congressman Ose promises to improve this process. We suggest that consults originating from any federally-funded telehealth project should qualify for Medicare reimbursement.

We were encouraged by the Telecommunications Act of 1996, and yet the rural health care support mechanism mandated in the Act still remains drastically underutilized. In the first 5 years of the program, only 4 percent of the funds authorized by Congress and the FCC were disbursed to eligible rural health care providers, attributable to onerous programmatic rules.

The FCC has not yet acted upon a notice of proposed rulemaking issued more than a year ago to modify these rules. This pending rule change is of major importance as the USDA launches other new programs to encourage and facilitate the deployment of broadband services that include rural health care partnerships.

In conclusion, by increasing levels of funding for quality telemedicine demonstration projects and by further reducing statutory and regulatory barriers to broader utilization of telehealth services, Congress has an opportunity to greatly increase access to quality health care services for rural Americans and strengthen the emergency preparedness of our rural communities.

I would be happy to respond to any questions. Thank you for the opportunity to testify today.

The CHAIRMAN. Thank you, Dr. Rheuban.

Mr. Chapman, we are pleased to have you from the Ninth Congressional District of Virginia. Congressman Rick Boucher, who has been very active in supporting this program and regrets, while he is not a member of the committee, he had hoped to be able to participate but was unable to do so.

Mr. Chapman, welcome.

**STATEMENT OF HOWARD CHAPMAN, EXECUTIVE DIRECTOR,
SALTVILLE MEDICAL CENTER, SALTVILLE, VA**

Mr. CHAPMAN. Thank you, Chairman Goodlatte and members of the Committee on Agriculture.

As a federally-funded community health center director that operates programs in rural southwest Virginia, I know the problems of access to care. We provide primary care and preventative health services to patients.

The Federal funding is primarily for the indigent and uninsured. Over 50 percent of our patients have no insurance listed. It is estimated the 42 million Americans are uninsured, and about 1 million Virginians are uninsured. There are currently about 3,500 federally-funded community health center sites in the U.S. And about 67 in the State of Virginia.

The comprehensive services we offer as a community health center require that we partner and network with other area providers and service agencies. This allows us to maximize resources through eliminating duplicated services.

The big area of concern is access to specialty care. A shortage of these providers exist in our service area, and they often have heavy patient loads of insured and paying patients. These patients usually have transportation, have access to transportation and the ability to pay and have no real barriers to access and care.

That is not the case with the indigent and uninsured. They do not have the ability to pay for services up front, usually \$200 or more for an initial office visit. They lack transportation and insurance coverage for the needed labs, x-rays and just basic services.

The University of Virginia's telemedicine program has been a great benefit in the ability to serve the indigent and uninsured. UVA accepts our sliding fee scale and discounts the patient's charges based on the total family income and family size.

Our sliding fee program is updated annually by the Federal poverty guidelines, and our minimum copay at the bottom end of the scale is \$5 per visit. This is a true benefit for the indigent patients.

It is over 4 hours one way from the Saltville Medical Center to the UVA Hospital in Charlottesville. That makes routine travel to the UVA facility difficult for many of these indigent patients. UVA is the nearest State-supported teaching hospital and provides a tremendous amount of indigent care across the State.

Our area of rural southwest Virginia has no mass transit and only limited taxi service. A recent study conducted by the Southwest Virginia Graduate Medical Education Consortium noted that 14 percent of the households in their service area, Planning District 1, 2 and 3, had no telephone service and about that same percentage lacked vehicular transportation.

The UVA Telemedicine Program makes 24 separate specialties accessible and close to home. UVA just placed a Mydriatic digital retinopathy camera at Saltville Medical Center. We are currently participating in the diabetes collaborative, which is one of the chronic disease collaboratively sponsored by the CDC, National Institute of Health and the Bureau of Primary Health Care. The required eye exams are an important part of the treatment protocol for diabetic patients.

The Blue Ridge Poison Control Center is staffed through the UVA telemedicine link 24 hours a day, 7 days a week and is accessible by our staff.

A second part of the UVA Telemedicine Program is to provide patient education. UVA offers an 8-week Diabetes Education Pro-

gram, among others; and they will help with programs and training for specific needs. This puts the resources of UVA in the hands of our providers.

The UVA telemedicine link also offers continuing medical education to our providers and staff. This removes much of the rural isolation for our providers and has improved our efforts to recruit and retain staff.

All of the UVA telemedicine services, including CME, is made available to the public, area providers and their patients. The CDC Broadcast for Bio-Terrorism Preparedness was available through UVA telemedicine link; and local police, fire, rescue, public health officials and others attended this broadcast at the Saltville Medical Center.

Further expansion of the use of the telemedicine program nationwide would be my recommendation to improve health care delivery to rural and underserved Americans. It puts services in remote rural areas that lack resources to support a full-time provider. It provides direct treatment and could benefit the indigent and uninsured in the State and Nation with such established linkages.

The one problem I would note is limited access to mental health counseling. The Apple Link Telepsychiatry Program is a separate regional telepsychiatry program used by the local community service boards. Unlike the UVA services, their counselors are more difficult to access but are in great demand among our patients in the communities throughout southwest Virginia. Any effort to encourage the provision of a greater number of telemental health services would be viewed positively by rural health care providers.

In conclusion, I would like to say that the UVA Telemedicine Program and their partnering with our organization and other CHCs across the State have led to improved access to specialty care and, in turn, have improved health outcomes and the quality of life for many of the people that we serve.

I would like to thank you for the time to be able to testify here today and for your support in this program.

[The prepared statement of Mr. Chapman appears at the conclusion of the hearing.]

The CHAIRMAN. Well, thank you, Mr. Chapman.

I think at this time we are going to have a demonstration of this technology.

Dr. RHEUBAN. Hopefully, everybody is still home there. We are actually connected live to the University of Virginia; and we have on a document camera the image of Dheva, whose story was told by Under Secretary Dorr. I believe and I hope they are there. If they could possibly switch over and show his electrocardiogram, you can see the resolution and the ability to broadcast medical images. We were linked earlier.

In any case, this is the baby who was in Winchester. Can you guys switch over to the EKG, please?

Earlier, when we came in, my colleague, Mr. Sullivan, said we are going to be preempted by a real ultrasound from a baby—another patient from the patient center was being seen.

Well, I guess maybe our demo isn't going to work. Mr. Sullivan, do you know? Maybe we should just go on and see what happens as we go. I don't know where the connection went.

The CHAIRMAN. All right. Well, why don't we go ahead with the next witness, and then we will work on it and see if we can get the connection reestablished.

Mr. O'Brien, welcome. Sorry to put you on short notice there, but we will go ahead with your testimony. We are very pleased to have you with us today.

Now, here we go. We have got somebody on the screen.

Dr. RHEUBAN. Looks like we have Dr. Rob Marsh there. Dr. Marsh is a family practitioner in Augusta County, Virginia, who also serves as a physician at a rural prison in Augusta County as well. Dr. Marsh's father is a former Congressman, Congressman John Marsh. Can you hear us, Rob?

Well, we see him anyway. The Commonwealth of Virginia's only sign-language-trained psychiatrist, she does confidential telepsychiatry services, and it doesn't matter if the audio stream is down. Rob, can you hear us?

Dr. MARSH. Yes, I hear you fine.

Dr. RHEUBAN. Thank you for coming today.

Dr. MARSH. Well, thank you for inviting me.

What the program at the University of Virginia is doing with telemedicine has been instrumental in improving care both here in the rural areas but also here in the Virginia State Penitentiary System. Right now, I am talking to you live from Augusta Correctional Center, which is a maximum security prison, where we are providing care here. And we do it through telemedicine.

Dr. RHEUBAN. Can you comment on the types of services that you have utilized the most in that facility?

Dr. MARSH. Yes. I see three benefits service wise. One is getting patients to see a subspecialist at a major teaching university, and this can be a difficult thing to occur. One, it is difficult for inmates to transport there. But some of my patients out here in rural Augusta County have trouble getting to Charlottesville, and they are also intimidated by the interstate, they are intimidated by parking. This is the way that I can get someone with heart failure or bad hepatitis to see one of the top specialists right here in the office, and it is a way to give premium care to people in rural areas.

The second benefit from it, right now I have a nurse practitioner. She is very experienced. The University set this up. She is getting ready to retire. It is going to—to put someone in in that position they probably will not have the degree of experience that she has had; and, because of that, we are going to have to—I am going to have to more closely supervise her from this distant site, which is—currently my office is in Middlebrook, about 45 or 50 minutes from there. We are going to have to establish a link-up where I can communicate with this new nurse practitioner.

This is rural. The patient population is poor, and they have been, over the last few years, maybe been denied health care a little bit, simply because of their rural location. Telemedicine and the University of Virginia has been able to bring—or it is going to try to bring first-rate health care there. This is a project that we are really excited about, but right now we have been limited to it because of financing.

The third big role I see for telemedicine, for me as a rural doctor here, is a way for me to improve my skills as a physician, getting

information from specialists from Charlottesville to give me information that I need to know right now on how to treat new diseases such as—say I can get a link-up about the SARS viruses. What do I need to be prepared for and ready for?

So in this day and age, when infections and things happen rapidly, this is a good way to communicate information to doctors in rural areas as well.

Dr. RHEUBAN. Thank you, Dr. Marsh.

In the interests of time, we had planned to connect to a critical access hospital also in Congressman Goodlatte's district that has been connected, the Bath County Hospital. There is Charlottesville.

OK. There is an EKG. You can see this is an electrocardiogram. If my colleagues in Charlottesville could zoom in on it a little, you can see the quality of the image for interpretation. Can you zoom in? We are back to Rob.

Well, these are the challenges of technology that we are seeing as well right now. But it does work, and it is very effective in providing health care services to the rural and underserved and also to urban patients who don't have access as well.

So with that I will conclude our testimony, and thank you for the opportunity to be here today.

The CHAIRMAN. Well, thank you.

Dr. Rheuban, if you get the connection later on, we will go back.

Mr. O'Brien, now we are going to give you a full shot.

STATEMENT OF GEORGE S. O'BRIEN, SUPERINTENDENT OF SCHOOLS, COPENHAGEN CENTRAL SCHOOL COPENHAGEN, NY

Mr. O'BRIEN. Thank you, Chairman Goodlatte, members of the Agriculture Committee.

My name is George O'Brien. I am superintendent of schools at Copenhagen Central School located in Copenhagen, New York. My testimony today is presented on behalf of a consortium of six rural school districts, the Jefferson-Lewis Board of Cooperative Educational Services, Jefferson Community College, Syracuse University and Cornell University, of which we are the local educational agency.

Our consortium has been the recipient of a grant under the RUS for the past 3 years. The grant monies have provided the consortium students with the opportunity to participate in college-level courses, explore careers in agriculture, participate in inquiry-based science projects and view the world beyond our small towns and villages—but, most of all, to purchase the technology tools for our students to be competitive.

The Rural Dreams project targets two of the most impoverished rural regions in New York State. Jefferson and Lewis Counties are ranked second and fourth poorest in the State. Of the 18 school districts in our Board of Cooperative Educational Services, we are spread out over 3,000 square miles. Two-thirds of the schools are rated as high-needs/low-resource schools. The project specifically focused on providing direct assistance to a number of the smallest schools in the region. The local economy of these communities depend upon dairy farming, tourism, paper production, and logging.

Our project was built around a very simple premise, that our young people covet what they see every day in terms of life paths

and possible careers. But the lives and life paths that they might have once pursued, careers not requiring a college education, are disappearing. So we have to raise not only their aspirations but their educational expectations. Most of our college-bound students are first generation.

Our project set out to provide students access to credit-bearing college course work and advanced high school courses; provide professional development for teachers and meet community needs; pilot an approach to career education that is project based; and expand the use of distance learning into our elementary classrooms by way of virtual field trips and the use of web-based instructional materials.

The first college-level courses were offered in 1998 with borrowed ISDN equipment. One of the students in the first group graduated in May from Cornell University and will attend UCLA in the fall in a Ph.D. program. He believes that the SAT prep courses and the college courses he took over our distance learning leveled the playing field and enabled him to be competitive at Cornell.

The initial success of our consortium schools provided the impetus to the other schools in our region to provide distance learning. As of today, our area has both fiber and ISDN connectivity.

Cornell University helped us develop a web site called "Rural Dreams." On the site, we show our students' work in the career projects as well as work on the Streamwatcher's project.

Our career project has been a great success. To date, our sixth grade students have interviewed people in our local community and others from outside the region, including Hilda Legg, the Administrator of the USDA RUS. Our students then showcase what they have learned about the nature of the work these individuals do and the skills needed and the education necessary to be successful in these positions. These materials are shared with students in our region and beyond via the website.

Next year, we hope to have students explore careers in environmental sciences. Also, next year, we will be conducting a scientific evaluation of the integrated approach to careers and technology education so that we can document how student learning has been enhanced. We will also collect longitudinal data on participating students and their choices of colleges, universities, and life paths.

This summer, science teachers in our schools will be provided with technical assistance to expand science offerings by way of distance learning technologies and enhancing existing courses using a range of technologies, including handheld devices. The intent of this work is to build upon and expand the work already begun in our consortium schools.

Mr. Chairman, I want to thank you for this opportunity to share the successes that our students and our consortium have experienced and will continue to experience as a direct result of the RUS loan and grant program. It is programs like this that provide the assistance to small rural schools that we need to level the playing field and expand our students' world.

Thank you very much.

[The prepared statement of Mr. O'Brien appears at the conclusion of the hearing.]

The Chairman. Thank you, Mr. O'Brien. I think you have been joined by some of your students and teachers.

Mr. O'BRIEN. They snuck in on me.

The CHAIRMAN. Are they hooked up so they can speak to us?

Mr. O'BRIEN. Are you able to hear us?

Well, I guess—can I turn it over to the people up in Copenhagen, New York, and have them introduce themselves?

The CHAIRMAN. We would love to hear from them. Absolutely.

Ms. PAYNE-BORSEY. My name is Dr. Laura Payne-Borsey. I work in a research and development capacity between Jefferson-Lewis and Syracuse University. It is my privilege to introduce to you today some of the people who have actually made this project work here in Copenhagen, New York.

First, we have Phyllis Gaines. Phyllis facilitates an SAT preparation course in collaboration with SUNY Plattsburgh.

We also have here today Gussie Williams. Gussie is a sixth grade student who has worked on the careers and agriculture project.

We also have with us Holly Evans. Holly is an English teacher who has taught in collaboration with Jefferson Community College an English 101 and English 102 to students not only here in Copenhagen but in other consortium schools.

We have Peg Nevels here with us here as well. Peg is the instructional technology specialist at Copenhagen.

We have Darlene Rowesome, also with us. She is the technology coordinator at Copenhagen.

Nadine O'Shaughnessy joins us. Nadine is a chemistry teacher here, and her students actually have utilized not only the point-to-point video conferencing facilities but also a range of web-based and wireless distances learning applications.

Lisa Parsons is with us as the K-12 principal here. She works with Mr. O'Brien, whom you have obviously met.

And we also have Brittany Zaire. Brittany is a senior here at Copenhagen Central School and has taken several college courses utilizing the USDA-supported network.

We hope today to share with you some of our students' work but then also give you the opportunity to ask questions of any of us as you consider how important this particular project and funding line is to small communities such as ours.

The CHAIRMAN. Mr. O'Brien, go ahead and have them share one of their papers with us that they would like.

Mr. O'BRIEN. Well, it is going to be a video clip of one of the careers.

The CHAIRMAN. Good.

[Video Played.]

Mr. O'BRIEN. Attached to my testimony is a page that is titled "Career and Agribusiness," and it outlines the project goals, the skills, and the standards of each of the videos that the students make. It talks about all the—it will show you all the different careers that the students have already interviewed the people and put onto our Web site. And it also shows at the bottom some other projects which—basically, our network is used by kindergartners when they develop their own booklets that they can bring home, a story book using a Power Point presentation, to seniors in high school who are taking college-level courses.

I will turn it back now. If we still have time, sir, for some more comments from Copenhagen.

The CHAIRMAN. Mr. O'Brien, maybe one more and then we will go on to the other witnesses. That would be great, and then what we will ask them to do is stay on the line, unless we have something else to demonstrate. When we get to the time to ask questions, from the members of the committee, maybe some of the questions will be directed to your students and teachers.

The CHAIRMAN. Gussie, welcome.

Student GUSSIE. This project, we have learned many things in both technology and agriculture. Back at school, after we went on many of our field trips, we got to take the digital cameras and take pictures and create movies, as you saw, one of them.

And then we also get to create home pages that have the movies and other information that we learned.

And then when I went, we interviewed agricultural teacher, Abelda Henderson, and we learned that we can learn about agriculture at school and at home and that they are both connected.

The CHAIRMAN. Gussie, thank you very much.

Our plan is to have Dr. Patterson and Mr. Taylor offer their testimony. Then I think UVA has their ultrasound demonstration ready to go, so we will come back to that. And then we will link back up to Copenhagen and let them participate in our question-and-answer session.

And so at this time I would like to yield to the two gentlemen from Texas to introduce our next witness, starting with the ranking member, Mr. Stenholm.

Mr. STENHOLM. Thank you, Mr. Chairman.

Our two witnesses from Virginia—the chairman got to introduce two witnesses. Dr. Patterson, you are going to get welcomed twice from two graduates of Texas Tech.

We welcome you here today. I know of your experience in the Texas Department of Health and your interest in international health and then, now, your role at Texas Tech and the great work that Tech has done since the 1960's regarding telemedicine, that I have had the privilege of witnessing and seeing the results of in my district.

We thank you for your leadership and look forward to hearing from you.

The CHAIRMAN. Mr. Neugebauer.

Mr. NEUGEBAUER. Thank you, Mr. Chairman and Mr. Stenholm. It is a pleasure to be here this morning. Baptism by fire is, I think, the direction that my new congressional office has held.

And it is a pleasure obviously to have Dr. Patterson, who is a constituent and a fellow Red Raider, and also a personal friend, here. And so I am delighted that she is here today, and I am delighted that my first day on the committee that we get to have Dr. Patterson here. So thank you.

The CHAIRMAN. Thank you.

Dr. Patterson, welcome.

**STATEMENT OF PATTI J. PATTERSON, M.D., M.P.H., VICE
PRESIDENT, RURAL AND COMMUNITY HEALTH, TEXAS TECH
UNIVERSITY HEALTH SCIENCES CENTER**

Dr. PATTERSON. Thank you. Thank you, Congressman Neugebauer and Congressman Stenholm, and Mr. Chairman. My name is Patti Patterson. I am the vice president of Rural and Community Health for Texas Tech University Health Sciences Center. That includes supervision of our telemedicine program. I am also a pediatrician, former commissioner of Health for the State of Texas. But my No. 1 credential is that I am a graduate of a high school of 30 people, so I know rural.

In Texas, there are eight medical schools in the State; seven of them are in the eastern half of the State. We are it for the entire western half of the State and its distributed system. We have campuses in El Paso, the Permian Basin, Amarillo, Dallas, and Lubbock.

One of the barriers to technology is, that is not the way we have always done it. Well, that is not a barrier to us; that is the way we have always done it. We do 11,000 hours per year of direct instruction by technology between the various campuses. We also have a very large continuing education system. We did 76,000 hours of certified continuing education through our Healthnet system this last year.

Our telemedicine system touches six congressional districts, if you are wondering why both of these guys are introducing. We have done over 13,000 consults. And a lot of that business is in the prisons, but we are also working in clinics, nursing homes, schools, rural hospitals, and probably some other things I am not remembering, things that I am trying to push us to do differently.

We did start really in the specialty consultation model that everyone else seems to do, but so much of our area has absolutely no access to primary care, we are trying to increase access to primary care. Through that, we have 27 counties, I think, with one doctor or zero doctors. So we are trying to reach that.

One of the things that I think we need to look at is changing demography and factors that are going on not only in our area, but the rest of the Great Plains region for sure and many other rural areas. Our area is isolated; 54 of our counties are frontier, that is, less than seven people per square mile. Most of them don't have anywhere close to that. There are more people in this room than are in some of those counties.

The demography is also changing. For many of our counties, the population is less than it was 50 years ago. We have had significant out-migration and just losses by natural mortality. There are also economic changes, and over the last decade, when most of the State enjoyed a tremendous economic boom, 42 of our counties had a decrease in per capita income, and that was true for many places throughout the Great Plains.

The other thing that Governor Janklow brought up was the aging population. For most of our region, the under-45 population is getting less, the over-45 is getting more, and the fastest growing population in our region is the over-80 population. When you add that to a weakening workforce and health care infrastructure, that spells problems that are going to need creative solutions.

Another very interesting factor in our area is a rapidly increasing Hispanic population. For our region right now, 51 percent of the school age population is Hispanic. Add that to the diabetes incidence, you have an isolated population that is isolated by culture and now geography, I think, that leads to some very significant issues that need to be addressed. And we are trying to put some technology answers to that.

Among things that I will put in the lessons-learned category is rural economic health, which is intimately connected to health care infrastructure and workforce. And we see it over and over again, when the hospital closes, then the whole economy goes down. That is happening in my hometown today.

We also know that health care spending per person is about \$3,500 person in Texas. The more of those dollars that we can keep home, keep them local rather than going to the cities, would be helpful to the overall economy.

My second point is that telemedicine is not a magic bullet. It doesn't correct the problems of no insurance and low or no reimbursement rates and the complexities of how to keep low-volume clinics with high fixed overhead up and going.

There are some—and Congressmen Osborne and Etheridge both brought up several points as far as the USDA program and trying to improve it, to help these areas that—I define them as “hard to help” because there are just a lot of problems, and you sort of have—usually the mayor is also the grocery store owner and has several other jobs. And for them to pull together a coalition to do a grant is usually not going to happen. It is very difficult to happen.

We have already mentioned the match requirements. The change to 15 percent is a good one, but the scoring does give advantage to the higher matches. We have already talked about the complexity of the application for people who have several other jobs, to try to do that. And so any efforts to simplify that would be very much appreciated.

And we have also discussed just a little bit the definition of “rural” better used in that application. The way they do it, and it makes sense, is to count based on where the hub sites are and where that consult is coming from. That is great and makes sense, but also many of the people we are trying to reach aren't at that hub site; they are at Rural Route 3 in the next county over.

So we also need to look at the whole service area as we do that.

I will conclude there and be happy to answer questions.

[The prepared statement of Dr. Patterson appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you very much, Dr. Patterson.

Mr. Taylor, welcome. We are very pleased to have you.

And I want to recognize the gentleman from Alabama, Mr. Bonner, for the purpose of recognizing you as well.

Mr. BONNER. Thank you, Mr. Chairman.

You know, an Alabama Senator, Lester Hill, introduced the opportunity for rural health care not only in Alabama, but throughout the country with the Hill-Burton Act. Today, few areas of the country are facing greater challenges in terms of the delivery of

health care than our rural communities, and one possible solution certainly appears to be the continued, growing role of telemedicine.

I am pleased, Mr. Chairman, to introduce Mr. Carl Taylor, who is the assistant dean and director of the Office of Emerging Health Technologies at the University of South Alabama College of Medicine. Mr. Chairman, Mr. Taylor brings an acknowledged resume as a leader in the area of emerging health technologies. He not only comes with extensive senior management experience in hospital administration, as well as academia, but he has also served as CEO of one of the fastest growing and most successful leaders in this field.

So I appreciate your making room at the table for Mr. Taylor, and I welcome him on behalf of this committee to join the panel.

STATEMENT OF CARL TAYLOR, ASSISTANT DEAN AND DIRECTOR, OFFICE OF EMERGING HEALTH TECHNOLOGIES, UNIVERSITY OF SOUTH ALABAMA, COLLEGE OF MEDICINE

Mr. TAYLOR. Thank you very much. Mr. Chairman, thank you very much. Congressman Bonner, thank you very much for that introduction.

What I would like to do is—although we are not a RUS grant holder, is to share with you some of the lessons learned that we have had at the University of South Alabama in our telemedicine program. Many of the very good questions that I heard during the Department of Agriculture presentation are, in fact, some of the same challenges that we have faced.

Cost of transmission is certainly one of those, and availability is certainly one of those. To be perfectly candid, one of the other things I did not hear and that is another issue that we have faced, is that physicians in rural communities do not refer to technology, they refer to other physicians.

The traditional telemedicine delivery method has always been a sort of hub and spoke; but in fact, I think what we are finding now is that you have to give the rural physicians a lot of flexibility to follow their preferences and their referral patterns. And I am pleased to see now some reinventions of the telehealth hub-and-spoke network to what are more called “televillages,” giving the physicians, at the end of the day, a lot more latitude in terms of what they want to do and where they want their patients and referrals to go.

We are practicing and working very hard, I think, as Congressman Bonner pointed out, to practice what we call “caring-edge medicine.” it is an intersect at the corners of high tech and high touch, because you need both if this is going to be appropriate.

One of the things that we have tried to do, and it is a story that I want to share with you, I think, as a lesson learned, is that we have actually migrated a lot of our program away from big bandwidth and big boxes—although I want to talk about those briefly—but down to low bandwidth and things that simply work in the home. And let me just give you a couple of minutes of how we got started in this.

There is a place called Pine Apple, Alabama. You can’t get there from here. I know that Congressman Bonner knows where it is, and I think he would agree with me.

I went up during my very first days at USA, because I saw that we had a big box telemedicine piece of equipment up in Pine Apple that had never been turned on, and so I decided I would go up and see what had happened to it. I ran into Dr. Rose Anne Cook. She greatly became one of my heros. She is the health care system for Pine Apple. And as I walked in and introduced myself from the University of South Alabama, she said, Oh, you must be the movers. And I kind of scratched my head and said, Well, no, I am not, but can you tell me what the problem is?

She says, Yes, we have got this big box teleconferencing box and it has been blocking my pharmacy for the last couple of months, and I hope you are here to take it away.

And I finally took a step back and said, Well, actually, that wasn't the intention of why I came up. Tell me about that. And she said, Well, you know, first of all, there isn't a local carrier out there that actually will run a T1 line in. And, second, when I refer a patient out for specialty care, a lot of what they need are diagnostic tests and some things that they need in specialty offices, and so it is not really convenient to me.

And so I took a step back and said, Well, is there something we can do to help you? And she said, Yes, if you really care—if you really care about these patients in rural Alabama, you will focus on chronic disease. Alabama is a wonderful place to live, except we also rank No. 1 on a lot of things or No. 2 on a lot of things that you don't want to rank No. 1 on. We have the highest percentage of obese residents of any State in the country. We are number one or two based on new CDC data in diabetics. We have one of the highest percentage per capita in hypertension and congestive heart failure, chronic diseases that put these unfunded and underfunded patients at risk because they either don't have access to primary care or, more importantly, what they do is they use the emergency rooms in their rural communities as their primary care providers. That is not particularly good, because emergency rooms, no matter how well equipped they are, are meant to provide episodic care, not longitudinal care.

So we found a small little deck of cards, it is called a dual tone frequency modulator. We put it in these patients' homes. It runs on batteries across a standard telephone line, because telephone lines are one common-pot transmission that we have. We matched it up with two very—or three or four very inexpensive peripherals, and for \$500 at home we can now monitor back at our office with clinical nurses what we—what we can monitor are the vital signs of those patients from their homes, inexpensively.

We went one step further. We created a community of care, because if we could monitor them, we figured that the primary care physicians would want to know how they were doing. So with Web-based access, the primary care physicians can log on and see how they are doing.

We also put a nurse in the community simply to help, because compliance, which is really what we are after—drugs, diet, and exercise—are things that we think that we can do, that we can help by simply prompting, reminding, monitoring, and managing.

What is our result? We have virtually eliminated unneeded hospitalizations in this previously frequent flier population.

The comments that we get from the patients? I never believed my doctor's advice until now. I now know that someone cares, so I don't have to go to the hospital. Or a letter that we got a couple of weeks ago from the daughter, who is also part of the community, caring for her mother. The comment from the daughter was, you know, my mom wouldn't have had her stroke if you all would have just had this program a little bit earlier. But now that you are monitoring her, I know she is in good hands.

That is our migratory path to fight some of the bandwidth and transmission areas.

I know I am about out of time, so let me just also suggest we have continued to look for the broadband transmission success stories. Our two biggest successes are at the early days of birth, neonatology, where we connect small rural hospitals where we have a high degree of prematurely born babies back to our neonatology intensive care unit so that we can manage those children at the first hours of their birth while they are waiting for the NICU transport van to bring them to our hospitals.

At the other end is the—perhaps sometimes toward the end of life, and that is in tele-trauma. We just launched one of the Nation's very first tele-trauma programs, linking rural hospital emergency rooms that oftentimes are understaffed for the kinds of catastrophes that they see, back to not only our trauma center in Mobile, but also to trauma surgeons' homes, as well, because trauma is a 24/7 responsibility, and unfortunately it is not something that often happens from 9 to 5. And so what we have been able to do now is provide 24/7 trauma care services in the rural communities so that we can manage those patients and either leave them in the rural hospitals or arrange for transport in a timely fashion.

Thank you very much. I know I have hit my time and then some. I would be pleased to answer any questions that the committee may have.

[The prepared statement of Mr. Taylor appears at the conclusion of the hearing.]

The CHAIRMAN. Mr. Taylor, thank you very much.

Dr. Rheuban, are we up and running do you think?

Dr. RHEUBAN. I have been told we are. It looks like we have the EKG on that patient back again. I wonder if our colleagues are there. Can you hear me in Charlottesville?

Can you zoom in on that EKG, please. There we go. And maybe even focus it a bit more.

So this is the type of image that can be transmitted from hospital to hospital, also can be faxed, but actually the fax resolution is not as good as we get on a document camera.

How about, can we show the x-ray?

There we go. That is the x-ray on that infant that we discussed earlier, and you can see his heart. I can tell you, his heart is somewhat enlarged. You can see his ribs and vertebrae and monitor wires as well.

And then, next, could we flip over to his echocardiogram? And this would have been the image that I reviewed when the ultrasound was sent to me on January 1, 2000. And this is what we regularly do with a number of community hospitals within the Commonwealth of Virginia.

Now, can we go back now and focus in on Andy and Paige. We have two of our students, I believe they are in our office right now, who have helped to facilitate a school health project based from the University of Virginia to the Craig County School system. Andy and Paige—one is an upcoming UVA student and the other is a student at Virginia Tech, and they have done focus groups with the students in southwest Virginia and facilitated lectures from UVA to Craig County.

Gene tells me we are able to connect to Bath County Hospital in Congressman's Goodlatte's district, so let us see if we can possibly connect to Mrs. Debbie Lytes who is the COO of the Bath County Hospital. Let us see if we will get there.

Can you guys mute the microphone? And that way we won't be back to UVA.

There we go. Is that Debbie? Or are we in Saltville? If you go back to your chair, we can see you. We have been told there are some technological challenges, that you won't be able to see us; but we can see you right now.

Back to Charlottesville. Well, I guess we can't get to Debbie again.

Debbie, can you still hear us?

Well, at least we got to Charlottesville, and we were able to demonstrate the ultrasound—the challenges of technology, too, as well.

But thank you, UVA. We appreciate it.

The CHAIRMAN. Well, thank you, Dr. Rheuban.

I think what we will do is go back in a few minutes to Copenhagen. And we will start a round of questions now, and members of the committee are welcome to ask questions of the panel in front of you or the panel in New York once we get them back.

And, Dr. Rheuban, let me ask you about some of the challenges you are facing. I understand that there are some problems with the Medicare rules in terms of the hospital being able to be reimbursed for these connections. Can you tell us about those?

Dr. RHEUBAN. Sure. There was a revision of the old Medicare rules in BIPA 2000 which allowed for expanded reimbursement of telehealth services. However, the consult's origination site is a real issue for us. We cannot be reimbursed if we provide services to a hospice or to a nursing home, and we also cannot be reimbursed if we provide services to a facility that is located in a metropolitan statistical area.

Unfortunately, whole county designations of metropolitan statistical areas are problematic. We have some very rural facilities that are in what are called "whole county designated metropolitan statistical areas." those facilities, including rural federally funded community health centers, are ineligible for Medicare reimbursement, and by virtue of being there, they are no longer health professional shortage areas. Those HPSAs are eligible for reimbursement, but again, by having federally funded community health centers and their staffs present, they no longer become a HPSA. So that is a real challenge for us.

So a consult's origination site is a problem, as well as the rural designations by which certain sites are ineligible.

Interestingly, Virginia Medicaid has just issued new rules that will allow for telehealth reimbursement for Medicaid patients in ei-

ther rural or urban locations in Virginia with very expanded CPT code. So we are really proud of the Medicaid program.

Of course, you all recognize that Medicaid pays dearly for transportation costs. Transportation of a patient from Southwest Virginia to Charlottesville might be as much as \$2,000 for an ambulance trip. So it makes great sense for them to save on those expenses of transportation and reimburse for telemedicine.

The CHAIRMAN. Thank you. And tell me about what restrictions apply to consultations across State lines.

Dr. RHEUBAN. The State licensing is controlled by the State licensing boards. And so I practice medicine in Virginia and I am licensed to practice medicine in Virginia; I cannot see a patient using telemedicine technologies in West Virginia unless I secure a license to practice medicine in that State. So that is an issue nationwide, especially when you have rural States who don't have specific services available, even in their specialty centers, where they want to cross borders and go to another site.

There is a consultation exception. If I have a physician at the remote site and I am doing a consultation with the physician at the remote site, I am able to cross the State line. But that is a cumbersome process, and many remote physicians have enough to do that they don't necessarily want to sit in on the telemedicine consult. They don't come with their patient when they drive to Charlottesville; they don't need to participate in the telemedicine encounter.

The CHAIRMAN. What are the normal operating expenses of a facility like yours once your telemedicine system is operational?

Mr. CHAPMAN. That has been one of the really nice benefits. Again, you know, we actually are in about our second year of the grant. The funding is just up, so we have applied for the universal access fund to be able to take care of that. I think in our area the T1 line was about \$769, and again it goes down to 320 with universal access funds.

So, again, it has been a great benefit for us. But other than staff time and things, that has been basically it.

The CHAIRMAN. Great. Thanks.

Let me ask our friends in Copenhagen, do you have the ability to communicate amongst different schools within your school district there? Can a teacher in one classroom also teach another classroom at another school nearby at the same time?

VOICE. Yes, actually, we do.

And I will refer that to Holly Evans. Holly is an English teacher here at Copenhagen.

Ms. EVANS. I teach an English class at the community college, and this year I have two students in this room here. I also have four students at Sackets Harbor and four at South Louis, and they are at opposite ends of the area that we live in. And through this program the students were able to take an English class and get college credit for it.

The advantage, of course, of a program like this is, we would not have the staff in the three schools to do this program unless we had the distance learning facility that we have right now.

It works very well. We are able to have class discussions among the three schools. We are able to mute out when we do group work.

And I feel like it has been a very successful program. I personally enjoy working in the program, and I think the students gain a lot from it.

The CHAIRMAN. Well, that is great. And it feels like you are right here in the hearing room with us, so I am sure that a student taking a class would have the same kind of feeling, that they were right—a part of the discussion and the class going on. Thank you.

I will now recognize the gentleman from Texas, Mr. Stenholm.

Mr. STENHOLM. Thank you, Mr. Chairman.

Dr. Patterson, is telemedicine good medicine?

Dr. PATTERSON. I think you have seen some great demonstrations here of things that you can see. I mean, the ultrasounds are great. The x-rays, the orthopedists love it. You can see them actually better than you can on the view box.

Mental health services works really well.

I actually take students down to show—teach them how to look at ears, now using the telemedicine equipment, and some of that works really great.

It comes down to medical judgment. Would I take care of a child with abdominal pain? No, I want to see them and poke and feel. But it comes down to medical judgment.

Mr. STENHOLM. Follow-up to the question of Dr. Rheuban regarding Medicare and the difficulty we sometimes have getting the bureaucracy—and I say that affectionately—to adjust to the new, modern age and technology and keeping up.

And, again, I think each of our witnesses, we are talking about rural areas, as we heard from the Department witnesses this morning, and we have an aging population in rural communities. There is no question about that.

The difficulty for young people to make a living back in rural communities is difficult and getting more difficult.

Then we are in the process now of making the most significant change to the Medicare program that we have seen since the origination of it.

So my question to you, Dr. Patterson, and anyone else that would like to join in, is, how can telemedicine and distance learning be used to improve the situation regarding how do we deal with Uncle Charlie back in a rural community?

Dr. PATTERSON. I will start.

We have brought up several times the fact that telemedicine isn't reimbursable with the origination site being a nursing home. That is something I would really like for us to be able to do. In fact, that is my next project. That is the next thing I am going to do through grant funds or whatever we do.

There are nine counties in west Texas that have a nursing home and no physician, so—that doc is somewhere else. And we have talked to some of them; and in fact, the medical director for the nursing home in Alton is in Plainview. If we could link that nursing home to her directly, either in her home or office or both, she could take care of things and, I think, show a dramatic decrease in the cost of ambulance transports, besides just being able to perhaps help with some of the liability issues and that the transports are done because people often are concerned. Well, I am not sure, but let us go ahead just to be safe, send them to the emergency

room; and people who just shouldn't be transported for their own, I guess, mental health and well-being.

And then also a lot of these communities, there is not a lot of continuing education through the same equipment. In fact, we are doing this, we could provide training for nurses aides, the LPNs, and even the directors on some of the administrative issues.

Mr. STENHOLM. Dr. Rheuban.

Dr. RHEUBAN. Yes, I would agree with Dr. Patterson. I think that for the Medicare programs, certainly, inclusion of nursing homes and hospice units, where we have many of our elderly patients; the same for home health applications and home monitoring.

And I would like to put in a plea for coordination across the agencies, because the issue of the rural health care support mechanism is just the same. A nursing home is ineligible for telecommunication discounts under this program even though it is related to health care and the services would be telehealth facilitated care. So if a nursing home has to pay \$1,000 a month, it may not be a sustainable telehealth program, whereas, if they go down to 320, as Mr. Chapman has testified, then it is sustainable for that nursing facility.

Mr. STENHOLM. One last question. How are privacy laws such as HIPAA impacting telemedicine services?

Dr. RHEUBAN. We certainly are making every effort to be entirely HIPAA-compliant. It depends on the type of network one is using. One—point-to-point networks are entirely compliant, as are encryption technologies. We are integrating encryption technologies into our videoconferencing systems, as well, so that we can be entirely compliant.

We do share UVA HIPAA regulations with our remote sites, and so consent forms, the required HIPAA consent forms, are signed by patients at remote sites so that they are aware of our conformity to the HIPAA regulations. But it is a challenge when you are dealing with otherwise unaffiliated sites.

We have our patients sign consents, just general consent forms, to participate in telemedicine. Mr. Chapman is a wonderful partner, but he has no other relationship with the University of Virginia, so he is forced to utilize our consent forms in addition to his own.

Mr. STENHOLM. Thank you.

The CHAIRMAN. I thank the gentleman.

The gentleman from South Dakota, Mr. Janklow.

Mr. JANKLOW. Thank you very much, Mr. Chairman.

Dr. Rheuban, I was interested in your comment about referring a patient. The fact is, as a doctor, as a medical doctor licensed in your State, if I was your patient, you could refer me to M.B. Anderson in Texas or Johns Hopkins in Maryland or Mayo Clinic in Minnesota, and I can go there. But you can't have a doctor from any one of those three facilities consult with me over telemedicine unless you sit in the room; is that correct?

Dr. RHEUBAN. That is correct.

Mr. JANKLOW. And so that kind of nonsense has to be addressed by someone, be it at the State level or be it at the national level.

Dr. RHEUBAN. That is correct. It is not an issue for the Veterans Administration, for the Department of Defense, but it is in the private sector of health care.

Mr. JANKLOW. And the savings in time and money would be astronomical nationwide. This isn't just a rural telemedicine issue, it is a medicine issue.

Dr. RHEUBAN. That is correct.

Mr. JANKLOW. And, Dr. Patterson, I am a lucky South Dakotan, because I serve on the University of Texas' Technology Advisory Group. In my State, we wired every school building, all 622 of them, statewide, with every—a computer drop for three out of every four children in the State; 90 percent of them can be on-line at the same time. But three methods of technology: our 59 cable, TV cable, CAT-5 computer cable and ran the conduit for fiber. It is a unique situation that we have. And we tied telemedicine into it.

I had to negotiate with 28 telephone companies to put together our—you are all smiling because you have seen this movie in the real world. But I had to negotiate with 28 different telephone companies, some family-owned, some of which were co-ops, some of which were municipally owned, and some of which were shareholder-owned, to come up with frame relay and ATM technology that we could utilize with T1s to get the bandwidth around all of this.

Are there any of you that disagree with the fact that the first real step in solving this problem is to solve the bandwidth problem, getting the pipes out to where the people are at in rural America? Do you agree that is the first step? Do any of you disagree with that?

The second step: Do you agree that tying schools is just as important as tying medical centers, rural medicine, that they go hand in glove with each other, that the people that are going to operate this stuff in the future are going to come out of our school systems? And this is—technology is the first revolution, I think, in the history of mankind, womankind, where the grade-schoolers are leading the revolution. They all know more about it than the older community, and it will continue that way.

The third question I would like to ask is, as I looked at that screen, that is frankly an older technology plasma. To the extent that you have the newer technology, you could really see detail on it if you were—isn't it true, and I will ask any of the doctors, that what you are able to do in looking at sonograms over a great distance is no different than what you could look at at the bedside? The technology is there today at a reasonable cost; isn't that correct?

Dr. PATTERSON. That is correct.

Mr. JANKLOW. And the radiology is the same thing. What you can look at on a screen consulting with a radiologist any place, or a consultant any place, is just as clear over distance as it is standing in the x-ray lab and throwing it up on that fluorescent screen, or whatever it is that they use. Am I correct?

Dr. RHEUBAN. Yes.

Mr. JANKLOW. What is it that we can do? I mean, seriously, you heard the folks from the U.S. Department of Agriculture, which is

one small agency that deals with this stuff. And there are a myriad of rules and application processes and just the bureaucratic nonsense that—it is not their fault; it is just the way the government works, unfortunately.

What is it that we can do in Congress to facilitate the movement of this revolution, which is moving faster than we can pass laws to accommodate it? Could any of you tell us, what is it? Is there anything we can do?

We don't have the answers. The people out there applying them have the answers. Just like trying to run the war from the Pentagon, we all learned we can't do that. And we can't run technology from Washington. So what is it that we can do to facilitate this?

Dr. RHEUBAN. Well, I would still like to again put the plug in for reimbursement, because we are not going to get physicians to be particularly happy to provide those services if they are not going to be reimbursed to do so. And then, also, anything we can do to drive down the telecommunications costs. We are lucky in the Commonwealth of Virginia, we can wire any community in Virginia within 2 months. We can have—

Mr. JANKLOW. But you can't get out to the world without paying a big fee?

Dr. RHEUBAN. Well, no. We have—with the universal service fund, we can get discounts, but only to certain communities. So if we can push the FCC to get the new rules through, we might be able to get expanded activity.

The other piece is, the rural health care support mechanism specifically excludes for-profit entities. So a for-profit hospital—and we all know that in many of our rural communities, the little hospital is a little for-profit hospital. In Virginia we have noticed a number of our community hospitals that once were for-profit went bankrupt, acquired by a for-profit entity; that unit is no longer eligible for rural health care support in terms of telecommunications discounts.

Mr. JANKLOW. So that takes legislation to fix. Either that or rules through the FCC.

Dr. RHEUBAN. That is correct.

Mr. O'BRIEN. Talking to some of our local phone companies, one thing they mentioned is depreciation of equipment, that they cannot depreciate their equipment fast enough to keep up with the changing technologies, so therefore, they cannot keep updated.

Mr. JANKLOW. I thank the gentleman.

The CHAIRMAN. The gentleman from Alabama, Mr. Bonner.

Mr. BONNER. Thank you, Mr. Chairman.

Mr. Taylor, it sounds from your testimony that the small deck-of-cards-sized piece of equipment used by the South Alabama pilot program in Pine Apple, which I do know where it is because it is in my home county, holds great promise for improving the lifestyles and health of rural residents.

What plans does the University of South Alabama have to expand this service to include a greater number of rural residents with chronic medical problems? And what can Congress and, specifically, this committee do to help?

Mr. TAYLOR. Well, I think that is a great question.

First of all, one of the things that we are doing—we were grateful to get another grant this year that will actually allow us to double the size of the program that we currently have. One of the interesting things about it is the Web-based data serve infrastructure that we build will actually accommodate, without another nickel spent on our part, up to 3,500 patients. So all we really need is additional funding to equip the homes, and we scale very, very well.

In addition to that, I have had some excellent conversations with Michael Lewis who, you know, is our Medicaid commissioner in the State. And Mike, not unpredictably, said, You know, it is the 6 percent of my patients that are causing me 55 percent of my costs. And I kind of said, I think I know who they are and what they are doing, and we would like to help.

In addition to that, we have had an excellent relationship with the Alabama Department of Public Health. We actually have a pilot program going with them in Geneva, Alabama, now working with their home health nurses as well, and we are seeing the exact same kind of results with ADPH.

So we are working very hard to get the message out within our State and to look for those people that have an interest in not just delivering good health care, but being able to actually quantify that this delivery system is actually driving some savings to the system as well.

In terms of what Congress can do, I am going to slightly go sideways with my esteemed panel here. I think it is a two-way street. I think reimbursement, yes, that is one; reimbursement for a videoconferencing is certainly an issue, no doubt about that. We can take a look at some of the barriers, because one of the challenges with live videoconferencing—and I think to be fair, we have kind of seen it—it is not always seamless. Doctors are creatures of convenience, and if you are waiting for something, for food or you are waiting for somebody to show up, or you have got the wrong image, they have got so many patients to see within their day that if you are making their day harder, they are not likely to champion that technology.

One of the reasons that teleradiology works so well is, yes, it is a digital image; and if you can transmit that image—an image is an image is an image, but it also allows the radiologist to log on and to read that image in his or her time and convenience and generate that report.

We have got to rethink some of what we are delivering in terms of services to actually match up with things that will get our physicians excited beyond just the \$75 reimbursement that they may or may not see.

And the other thing that we have got to do, to be perfectly candid, is I am not sure that we are always good partners to rural hospitals. If you go to the rural hospitals and say, what we really want to do is, we want all your specialty consults to come to us via videoconferencing, you know, the rurals don't get much out of that right now from a reimbursement perspective. We have got to rethink what we are doing to help them.

If you ask a rural hospital what their problems are, the need for telemedicine wouldn't hit their top 10. Critical nursing shortages, for example, that is probably near the top. And to be quite blunt,

where are some of their nurses going? Well, they are kind of going to our urban hospitals because we are paying bonuses to take them.

So one of the things that we are experimenting with right now is actually a little 802.11 wireless robot that would literally allow a nurse to make rounds from a nursing station in each room so that you can leverage the humans in that.

And so what can Congress do? I think, frankly, put some burdens on this industry to try and come back with things that really matter to prove demonstrable outcomes, to show that we are better partners for some of the rurals, and then to help align some of the reimbursement financing/grant opportunities to help us achieve those.

But I think part of this burden sits at this table just as much as it does on your side of the bar.

Mr. BONNER. Mr. Chairman, if I have time, I would like to ask a follow-up.

Do you feel, Mr. Taylor, that the expense of providing this technology and medical monitoring for these rural patients is recaptured by savings to Medicare, Medicaid, the private insurance industry, hospitals, and to the patients themselves?

Mr. TAYLOR. Yes, sir. I come out of hospital administration, among other things, and I tend to think of the bottom line first and then build up to what I can do to get there. And I can tell you, in our patient population, we took what we call "frequent fliers"; these are patients that were in the hospital up to four times a year. The average cost of an emergency room visit in Camden, which is the nearest hospital, John Paul Jones, is between \$600 and \$800 for one visit. If it is an inpatient admission, it is between \$3,000 to \$8,000. These were patients that were unfunded patients, basically consuming somewhere in the neighborhood of \$20,000 to \$25,000 of unfunded resources at Camden Hospital on an annualized basis.

We spent \$800 this year on each one of those patients, and have had one out of our entire population—one hospitalization, and that was for a nonmonitored event.

So I think we can improve our marks in terms of being able to work with the hospitals, to say, I think there is a return on this investment.

Mr. BONNER. Mr. Chairman, I know my time is out. I would just like to, if at all possible, ask Gussie a quick question. And that is, how many other 6th graders have had a chance to testify before a congressional committee? We are saving a seat for you when you get a little bit older. You have to be 25.

Mr. Chairman, thank you very much.

The CHAIRMAN. Thank you.

And thank you, Gussie.

We are now pleased to recognize the gentleman from Texas, Mr. Neugebauer.

Mr. NEUGEBAUER. Thank you, Mr. Chairman. I want to make kind of a brief statement in that I have spent a lot of my volunteer time in my community working on economic development. And I will tell you that rural economic development is hinged on our success in what we are talking about at this table today, in both distance medicine and distance learning, because people are not going

to move to rural America if they don't have the quality of life that they can get in the urban areas.

And so this is a very important topic that we are talking about today, because you can talk all you want to about our economic development and providing incentives for companies to move to your community, but if you do not have some basic infrastructure in place, those companies are not going to be coming to your communities because they are not going to be able to attract the workers that are going to work and live in that area.

So I applaud the panel and the things that you are doing, because it is very important to my constituency and to many of the constituencies within this room.

I have heard a lot of discussion this morning about reimbursement. And I think Mr. Taylor was talking about some devices that he was able to put in, to a lot of people in his area.

And you provided those devices through a grant; is that correct?

Mr. TAYLOR. That is correct, sir.

Mr. NEUGEBAUER. I was wondering, is there any recognition of the value of those devices by, say, Medicare or other—private insurance providers? Will they not reimburse those patients for putting those devices in their home?

Mr. TAYLOR. I think that—I know there is a bill that has been pending, that I know a couple of years ago was designated as S. 1625, that Senator Rockefeller actually filed to try and create a reimbursement methodology for home-based monitoring. There is certainly some embrace within the PPS system that you can have some of your visits by using technology as long as you are meeting your other markers. Reimbursement, I think, is a very clear driver.

We are actually taking a slightly different path, though, and that is, in working with Medicaid, what we are trying to do is go to Medicaid and benchmark and say, We know what your cost is for this patient; if you allow us to provide the medical care and the monitoring care, and if we can reduce that cost, can we actually share the savings with you? We think that is an aligned incentive model to good care and good outcomes.

It is not too dissimilar to some of the many past programs or not too dissimilar to some of the risk-based capitation programs that CMS is now putting out in some of their demonstration projects. And so what we are actually trying to do is reverse that to say, Let us earn our keep, but if we can prove it, pay us for what we are doing.

Mr. NEUGEBAUER. Well, then, that was exactly my point. I think we have to have a system—and hopefully we are working on a system in the next 24 to 48 hours—that will begin to reward and encourage that kind of health care alternatives and some entrepreneurialism, because in those “frequent fliers,” as you call it—and that is an interesting term; I am a frequent flier, but that is not one I want to be. I don't want that card.

But I think about the savings of just transportation, how many devices you can buy with just one round trip for some of those patients. And so I would like to encourage my colleagues that we need to make sure that those kinds of opportunities are available under our programs.

Patti, I was going to ask you, in serving and being kind of the hub with Texas Tech University, what kinds of cooperation with, say, associations of governments and some of these communities—because you made a point, I think, earlier that they don't have the infrastructure in their communities to be able to help write the grants and those types of things. What are some of the challenges of that and maybe things we can—that would make that process a little more streamlined?

Dr. PATTERSON. That is a great question, and sort of my life for the last 3½ years.

One of the things that I am doing is trying to build what they call an “area health education center system” for west Texas. They are all over the country, 38 States I think; there are eight in east Texas, five in south Texas. And we were able, with the general revenue funds, to put one in Plain View. So we started one in west Texas. But that leaves half the geography of the State without these area health education centers.

They are largely to do—help with workforce development, but it is fundamentally an arm of the University of Texas Tech out into the communities.

I have tried it by flinging myself around 18 counties. That does not work. So I am trying to build some infrastructure and some connections with the community through having some people located there, build the expertise. And I think that is the way that we are going to be able to do some of that. But just me making cold calls isn't going to get it done.

Mr. NEUGEBAUER. Thank you.

Mr. Chairman, I yield back the balance of my time.

The CHAIRMAN. I thank the gentleman.

I want to thank everybody for their participation today. All the members of this panel have enlightened us greatly and pointed out a number of areas that we need to work on to make sure that this continues to be the growing success that it is.

Clearly, we need to make sure that the resources we have are stretched as far as we can stretch them and find more resources if we can. We also need to make sure that once we have these operations up and on line, that they are sustainable; and that would include some changes in the law, I think, to make sure that doctors can be compensated for their valuable time, whether they are providing services in the office or to somebody 100 miles away. It has a great value and, in fact, has great potential for saving resources if it is used properly. And so we will continue to work on those ways to make this work more effectively.

And I want to thank also Mr. O'Brien and everybody at Copenhagen, New York, for the great contribution that you all made. And I think there is nothing like a real, live demonstration. So, thank you all for participating in your first congressional hearing.

Lastly, this is the time when we roll the credits.

I want to recognize some folks who helped us to make this technology work, including, first and foremost, Merrick Munday here on the Agriculture Committee staff, who has been working for the last several days to help make sure that everything worked properly. And we thank him for everything he has done, as well as Alex Cusati, Pat Hirsch, Roy McLeod, and Mike Owens with the House

Recording Studio, and persons unknown in Virginia and in New York who also contributed to the success of today's hearing. We thank you all for your participation.

Without objection, the record of today's hearing will remain open for 10 days to receive additional material and supplementary written responses from witnesses to any question posed by a member of the panel.

This hearing of the House Committee on Agriculture is adjourned.

[Whereupon, at 12:44 p.m., the committee was adjourned.]

[Material submitted for inclusion in the record follows:]

STATEMENT OF THOMAS C. DORR

Mr. Chairman, members of the committee, I appreciate the opportunity to come before this committee to testify, on behalf of the U.S. Department of Agriculture, on the benefits that Rural Development's Distance Learning and Telemedicine program brings to rural Americans as well as the ways in which this program could be improved.

The building and delivery of an advanced telecommunications network is having a profound effect on our nation's economy, its strength, and its growth. In particular, these networks are becoming increasingly more important to rural America in terms of their ability to help solve two very important issues facing the Nation today. Number one, President Bush's initiative of "leaving no child behind" is addressed by providing them with the best education this country has to offer, whether they live in Washington, DC, or Almena, Kansas. The second is the delivery of quality and affordable health care.

Over 63 million people call rural America home. There are 2,300 counties in rural America, covering 80 percent of the Nation's landmass. In urban and suburban America, abundant resources enable our students and citizens to benefit from access to advanced medical treatment and new educational opportunities. However, demographics should not define degrees of opportunity, prosperity, and well being.

USDA's Distance Learning and Telemedicine program, administered by Rural Development through its Rural Utilities Service, continues its charge to improve educational and health care delivery in rural America. The terms "distance learning" and "telemedicine" are becoming synonyms for "opportunity" and "hope."

Telemedicine projects are providing new and improved health care services beginning with patient diagnosis, through surgical procedures, and post-operative treatment. New advancements are being made in the telepharmaceutical and telepsychiatry arenas providing health care options never before available to many medically under-served, remote, rural areas.

Distance learning projects continue to provide funding for computers and Internet connection in schools and libraries. The vast array of study options available to rural students through distance learning technologies literally brings the world to their doorstep.

The value of these services to rural parents, teachers, doctors and patients is immeasurable. And, in rural America, they play a vital role in solving the problems created by time, distance, location, and lack of resources. Distance learning and telemedicine services that can be deployed over broadband networks are literally changing the landscape of rural America. They enable rural students to take virtual field trips to places all over the world, from historic Williamsburg to the Louvre in Paris. They provide life saving medical treatment over telemedicine networks—allowing for specialists to guide surgeries hundreds of miles away! And there are real economic benefits as well. Building on advanced telecommunications platforms, distance learning and telemedicine technologies are not only improving the quality of life in rural areas, but they are also making direct contributions to the economies in rural areas by introducing the skills needed for a high-tech workforce and promoting sound health care practices, including preventative care initiatives. Direct contributions are made to economic growth and the creation of new markets—where businesses prosper and grow locally, while competing nationally and globally over high-speed networks and inter-connecting with suppliers, manufacturers, and consumers to optimize business strategies.

To further the success of this valuable program, we must be in a position to utilize the technology driving competition. USDA must continue its efforts to build this critical infrastructure component that supports this much needed technology for the

residents of rural America. Rural America has a lot to offer. It offers open spaces, a commitment to traditional values, and the potential for an overall improved quality of life. With the right tools and infrastructure, rural citizens can have the best of both worlds—the advantages of living in a rural area and the opportunities to benefit from strong economies, state of the art educational resources, and second to none medical treatment.

The results of this program are real and immediate! Hundreds of success stories occur each year due to the Federal Government's commitment to the people of rural America to become partners in helping them help themselves. Consider the following. With the deployment of advanced communications technologies to isolated health care centers, local communities can eliminate the barriers of distance, remoteness, and time that face rural physicians and patients. This was the case for a young woman, living in a small Kansas community and facing a life-time of treatments to control her diabetes. With telemedicine, "on-line" care has virtually eliminated the time consuming physical visits to the doctor for treatment. For her, this means leading a "normal" life, where her valuable time is spent building a career and enjoying life's many other challenges, instead of building a life around her disease.

In another example, we can see how telemedicine plays a role from the beginning of a person's life. Dheva (Dee-va) Muthuramalingam (Moo-too-ra-ma-ling-am) was born in a small community hospital in West Virginia on December 30, 1999, with respiratory problems and a heart murmur. As a precautionary measure, and as the world stepped into the new millennium, on January 1, 2000, he was transferred to the Winchester Medical Center for further diagnosis. Dheva was seen by an adult cardiologist. As is often the case in rural areas, the proper specialist is not always available. While the doctor determined that Dheva had a hole in his heart—he was also exhibiting other symptoms not associated with the initial diagnosis and further expertise was required. Hence, plans were made to transfer Dheva to the University of Virginia Hospital for further testing. Fortunately, before transfer, the doctor at UVA had the ability to review his ultrasound transmitted via telemedicine and diagnosed a rare congenital heart defect requiring immediate medication BEFORE transfer! Medication was prescribed and the local Medical Center was able to stabilize Dheva for safe transport. The doctors believed Dheva would not have survived the trip if the telemedicine diagnosis had not been made.

Dheva successfully underwent surgery the next day. He is a happy, living testament to the benefits of telemedicine consult and diagnosis, and the ability to deliver life saving medicine from hundreds of miles away.

Or consider, all across the country, rural school systems and high schools like this one, Quitman High School in Mississippi, that provide dual benefits to the community through the deployment of distance learning services. During school hours, three remote school districts are linked together to share valuable teacher resources and provide interactive curriculum, including foreign languages like Spanish I and advanced courses in subjects like Oral Communications. After hours, when the schools are not using the system, it serves as a community resource tool, available to the residents for other life-long learning opportunities. When we bring this technology to the schools, in many instances, we are bringing it and its benefits to the entire community. For instance public health and safety officials often use a school's distance learning facilities to take "re-certification" training.

While our focus here today is on the benefits of distance learning and telemedicine services, in reality, the benefits often spill over into the local community and foster a better understanding of the power of the world-wide web "at home, in the office, at the factory, on the farm, as well as at schools, hospitals, and rural health clinics. Using the home computer a farmer bought to "log-on" and run his business, from tracking weather patterns to buying and selling commodities on the open market, helps him to participate in the global, digital economy where he must compete. His spouse, a school teacher, attends college in the evening to receive her degree in working with children with special education needs. This just another example of the synergism these advanced technologies create.

These are truly remarkable stories that this partnership—USDA and rural America—helps to make real everyday. Today's advanced telecommunications networks will allow rural communities to become platforms of opportunity for new businesses to compete locally, nationally, and globally and the Distance Learning and Telemedicine Program is an important component to help us continue to meet the new communications needs of rural America and ensure that no rural resident—from students to parents and teachers, from patients to doctors, or from consumers to entrepreneurs—will be left behind in this new century.

There are many challenges before us. But, as has been shown over and over again, given the right tools and relationships, rural citizens will take the reins and

bridge the digital divide and will harness the opportunities for a higher quality of life. Providing rural residents and businesses with barrier-free access to the benefits of today's technology will bolster the economy and improve the quality of life in rural America. Much has been accomplished upon this successful public/private partnership. In the 10 years this program has been providing funding, \$173 million has been made available to fund over 500 projects in 45 states and four territories.

While this is a tremendous amount of investment—which leverages private and local investment as well—more can be accomplished. We are constantly reviewing the program from an administrative viewpoint to see where improvements can be made within the legislative boundaries in which we operate. Most recently, we reduced the matching requirement to enable more schools and hospitals, particularly those from the most remote communities to benefit.

One critical impediment currently exists to funding certain telemedicine services on tribal reservations. In many instances, the health care facilities on reservations are owned by the Indian Health Services (IHS). Since IHS facilities are considered Federal facilities, these clinics are not eligible for RUS DLT grant funding. Therefore, many Native Americans will not be able to benefit from the improved health care opportunities that the DLT grants enable without legislative amendments that will enable such funding.

In its 10 years of operations, it is clear that the demand for loans in this program is very small. Only 10 percent of the total investment has been in the form of loans. This is primarily due to the types of entities that are eligible to borrow—namely schools and health care providers serving rural areas. In most cases, for instance, schools are prohibited from entering into loan agreements and would not be able to generate revenues to repay the loan if they could. In addition, sometimes, the high costs associated with the provision of rural health care limits the feasibility of telemedicine loans as well. While universities and hospitals may look to the loan program for funding to construct or rehab buildings, the 10-year required repayment period proves too financially burdensome. The paradox is that—while telemedicine offers a means to reach the most isolated and poorest residents of the country—it does not always provide a means for cost recovery. This hearing, I hope, will help us set the stage to achieve this increased demand for investment and so—on behalf of USDA, I appreciate the opportunity to testify before this committee today and to bring into focus some of the rewards this program offers as well as some of the challenges it faces.

TESTIMONY OF KAREN S. RHEUBAN

Chairman Goodlatte, distinguished members of the Agriculture Committee, my name is Dr. Karen Rheuban. I serve as Professor of Pediatrics, Associate Dean for Continuing Medical Education and Medical Director of the Office of Telemedicine at the University of Virginia Health System in Charlottesville. I am also the Treasurer of the American Telemedicine Association and a member of the Board of Directors of the Center for Telemedicine Law.

On behalf of the University of Virginia, it is an honor and a privilege to provide testimony that will address:

- (a) the role of telemedicine in the delivery of healthcare and educational services to rural Americans,
- (b) the tremendous benefits of and potential improvements to the Distance Learning and Telemedicine Grant Program of the Rural Utilities Service of the US Department of Agriculture, and
- (c) the role the Congress might play in fostering greater deployment of telehealth technologies and services to underserved constituents.

THE ROLE OF TELEMEDICINE IN THE DELIVERY OF SERVICES TO RURAL AMERICANS

Rural Americans face immense physical and financial burdens of travel for access to healthcare services. In many cases, such care is obtained “too little, too late”. The implications of this lack of timely access to quality healthcare are well known, and include delayed diagnoses of preventable or treatable illnesses and a higher cost of care when and if such care is received. Rural communities suffer from high turnover rates of primary care physicians, and a clear-cut paucity of primary care and specialty care providers. Rural hospitals experience bankruptcy and closure rates higher than their urban counterparts. Rural health professionals, in order to keep abreast of the substantial and ongoing changes in the field of medicine, must travel significant distances to participate in continuing medical education programs, which in most states, is mandated for license renewal.

With the tragic events of September 11, 2001, has also come the recognition of the importance of rural considerations in our national state of emergency preparedness.

Nuclear, chemical or bioterrorist events are as likely to impact our rural communities as our urban centers. These rural communities historically have been the least prepared to respond, by virtue of their geographic isolation from tertiary or quaternary medical expertise and our nation's longstanding weak public health infrastructure. The benefits of affordable and enhanced connectivity to our rural hospitals cannot be overstated.

In an effort to address the significant rural-urban disparities in the Commonwealth of Virginia, the University of Virginia Telemedicine program was established in 1995 specifically to enhance access to specialty healthcare services and health related education for remotely located patients and health professionals using broadband telecommunications technologies. We serve as the hub of a network of 43 sites which include community hospitals, a veteran's hospital, federally qualified community health centers, rural clinics, prisons, schools and state health department clinics located primarily in rural communities in western, southwestern and central Virginia.

In 1997, we were awarded our first Federal grant to deploy a network of rural telehealth centers in the 9th Congressional district of Virginia, a rural and medically underserved Appalachian region of the Commonwealth. With Federal and state support from the following agencies, we have since created an extensive network of previously unaffiliated but deeply committed healthcare partners in our State:

U.S. Department of Commerce: NTIA Technologies Opportunities Program

U.S. Department of Agriculture: RUS Distance Learning and Telemedicine Grant Program (x2)

HRSA: Office for the Advancement of Telehealth (Congressionally mandated through a Labor HHS Appropriations from Congressman Frederick C. Boucher)

HRSA: Medicare Rural Hospital Flexibility funds (Critical Access Hospital Program) in partnership with the Virginia Department of Health.

HUD: Community Development Block Grant Program in partnership with the Virginia Department of Housing and Community Development for enhanced community infrastructure deployment and connectivity.

Virginia Department of Corrections

Virginia Department of Health

Veteran's Administration: Salem Veterans Administration hospital

To date, in our network, we have facilitated more than 5400 live interactive clinical consultations and follow-up visits linking remotely located patients and our University of Virginia health professionals representing 25 different medical and surgical subspecialties. These services are provided on a scheduled basis or emergently, as needed, at any time, day or night. We have provided more than ten thousand radiographic interpretations through our teleradiology program. We have saved lives, supported timely interventions, and spared patients unnecessary travel and expensive transfer when feasible.

As examples, through these linkages, our clinicians have diagnosed and managed such acute medical conditions as:

- flesh-eating streptococcal infection,
- snake bites,
- bacterial endocarditis (cardiac infection), and
- life-threatening congenital heart disease in infants.

We follow chronically ill patients such as those with:

- Hepatitis C and/or HIV/AIDS,
- Huntington's disease,
- Spinal cord injuries,
- Heart failure,
- Diabetes mellitus,
- Hypertension, and
- Mental illness

sparing patients additional unnecessary burdens of travel for care.

We have utilized our connectivity to implement screening programs such as:

- the screening of patients for retinopathy, the major cause of blindness in patients with diabetes mellitus, and
- gynecologic oncologist supervision of a certified family nurse practitioner performing cervical biopsies on patients at high risk for cervical cancer.

In the arena of health related distance learning, we have broadcast thousands of hours of health professional and patient education, to include:

- the CDC bioterrorism lecture series on anthrax and smallpox,
- the CDC program on SARS,
- OSHA and JCAHO mandated programs for community hospitals,
- Grand rounds and other lectures as requested by remotely located health professionals,
- Programs for Project Head Start professionals,
- Patient education programs for patients with cancer, or diabetes mellitus, and
- Programs for rural high school students that utilize the rich resources of our University community.

Home telehealth and telemonitoring services play an additional important role in the delivery of timely services for those with chronic illness.

THE TREMENDOUS BENEFITS OF AND POTENTIAL IMPROVEMENTS TO THE DISTANCE LEARNING AND TELEMEDICINE GRANT PROGRAM OF THE RURAL UTILITIES SERVICE

Since the inception of the USDA Distance Learning and Telemedicine Grant Program in 1993, more than 220 grants have been awarded to telemedicine projects similar to our own.

Comments solicited from RUS DLT grantees include the following:

As a past RUS grant recipient, Inland Northwest Health Services/Northwest TeleHealth continues to build upon its successful partnership developed with telehealth grant sites.— We very much appreciate this program as a way to help underserved rural communities gain access to specialty healthcare and education

Denny Lordan, Senior TeleHealth Consultant, INHS/Northwest TeleHealth, Spokane, WA 99201

The (RUS) grant program provided the needed seed money for Arkansas to buy equipment to start our network. It has increased access to rural areas in the state that did not have needed specialists. We were able to leverage the money from RUS to receive additional funding—we now have interactive compressed video in or within 30 miles of every hospital in the State.

Ann Bynum, Ed.D, University of Arkansas for Medical Sciences, Regional Programs, Little Rock, AR 72204

The USDA/RUS grant program has been instrumental in providing resources for the growth of the Partners In Health Telemedicine Network serving 26 end points in Montana including 8 Indian Health Service facilities. RUS is currently providing funding for development of an video over IP wireless network emanating out of St. James Hospital in Butte, MT and connecting an additional four sites to PHTN in Dillon, Deer Lodge, Warm Springs (State Mental Hospital), & Anaconda.

RUS provided the funding for video telecommunications connectivity to four of our remote/frontier health clinics, teleradiology services and allowed us to integrate bridging into the network infrastructure approximately two years ago.— They continue to serve rural/frontier needs in Montana by supporting the growth of broadband services into these communities...allowing for the delivery of professional and community health education programs and telemedicine applications such as dermatology, mental health, orthopedic surgical follow up, genetic counseling, among others.

John Zauher, director, Health Informatics, Mansfield Health Education Center, St. Vincent Healthcare, Billings, MT 59107–5200

RECOMMENDATIONS FOR IMPROVEMENT OF THE DLT PROGRAM

The RUS DLT program offers a grant program, a grant and loan program and a loan program all of which primarily fund the purchase of equipment. Historically, very few telehealth providers have chosen to apply for the loan programs because most telemedicine programs struggle to maintain financial viability in an environment in which reimbursement for telemedicine facilitated encounters still is not mainstream and ongoing telecommunications costs remain high.

While funding for equipment is invaluable, it takes more than equipment to operationalize a telemedicine program. Below we have itemized potential areas for improvement of the program.

- Grants from the DLT program do not support personnel costs other than for technical assistance, and are limited by the agency to not exceed 10 percent of the grant.
- Ongoing telecommunications have been defined by USDA as an administrative cost of operation, and therefore are not covered under the terms of the grant.

- Indirect cost recoveries have been defined by USDA as an administrative cost of operation, and therefore are not covered under the terms of the grant.

We recognize and greatly appreciate the immense value of funding for equipment. However, we also believe that absent support for institutional indirect costs, or without higher levels of direct funding of personnel to install equipment, train and support the hub and remote sites geographically at great distance from one another, many potential applicants have been discouraged from applying for this outstanding program.

RUS requires a 15 percent minimum contribution in matching funds, which we believe to be a reasonable minimal commitment from grantees. We believe that one of the goals of the RUS program “the deployment of advanced telecommunications services in rural communities” could be advanced further by inclusion of ongoing telecommunications costs either in the grant program or as a component of the matching fund contribution by the grantees.

We applaud the Rural Utilities Service for its process of identification of rurality re eligibility for the DLT program. These USDA definitions are simple and practical. Ironically, these definitions include communities otherwise deemed ineligible for other Federal telehealth-related services—to include the qualifications as established by CMS for Medicare reimbursement or those established by the FCC for telecommunications discounts through the Rural Healthcare Support Mechanism. These issues will be addressed below and raise the concern that the long-term sustainability of some telemedicine projects established through this program and other Federal telehealth programs may be at risk.

Despite the aforementioned limitations, funding from the RUS Distance Learning and Telemedicine grant program has facilitated partnerships that have gone a long way to enhancing access to healthcare and health related distance learning for our rural citizens. We have been advised that the President’s 2004 budget includes \$25 million in grants for this program, \$2 million less than that funded in last year’s budget. We encourage the Congress to support greater levels of funding for this program in the next fiscal year.

THE ROLE OF THE CONGRESS IN FOSTERING GREATER DEPLOYMENT OF TELEHEALTH TECHNOLOGIES

The telehealth community is indebted to the Congress for its commitment to foster an environment without which the nascent field of telemedicine would likely have been severely limited in breadth, scope and experience. Notwithstanding an initial climate of non-reimbursement from third party payers, high telecommunications costs, limited deployment of broadband services in many rural communities, high equipment costs, restrictive state licensure regulations and a general skepticism of the ability to provide quality care via such technologies, we and other telehealth providers have persevered in our efforts to offer our rural constituents access to the same quality healthcare and educational services enjoyed by our urban citizens.

Such programs have only been realized with the help of the Congress for the funding of telemedicine demonstration projects in all 50 states, in fostering a climate of competition in the telecommunications sector and encouraging deployment of broadband services in rural communities, and in mandating reimbursement through the Medicare programs and as feasible, encouraging states to do the same through their Medicaid programs.

Despite a favorable revision of Medicare telehealth rules brought about by the Medicare Benefits Improvement and Protection Act of 2000 (BIPA), many critical services are still considered ineligible for Medicare reimbursement based on the location of the consult origination site.

As an example, if the consult origination site is located in a nursing home, an extended care facility or a hospice, telehealth services provided to patients at those locations are ineligible for reimbursement. Consults originating in many communities considered rural by USDA standards are not reimbursable by Medicare if that originating site is not located in a health professional shortage area, or if the consult originates from a county designated as a metropolitan statistical area (MSA). We believe that consults originating from any federally funded telehealth project should qualify for Medicare reimbursement. Store and forward services are ineligible for Medicare reimbursement other than from the states of Alaska and Hawaii but play an important role in the delivery of care from remote sites. Legislation recently introduced by Congressman Ose, the Medicare Telehealth Validation Act of 2003, holds promise to improve this process.¹

We strongly commend the Congress for the passage of the Telecommunications Act of 1996, and its effect in bringing about enhanced competition, a reduction in

the cost of services and an increase in the deployment of broadband telecommunications connectivity to our rural communities. In 1995, the monthly ongoing cost of a T1 connection from Charlottesville to Wise, Virginia was \$5800 per month. In 2002, with Universal service discounts, that same T1 service now costs \$320/month. And yet, the Rural Healthcare Support Mechanism, as mandated in the Telecommunications Act, still remains drastically underutilized. In the first 3 years of the program, fewer than 1.5 percent of the funds authorized by the Congress and the FCC were disbursed to eligible rural healthcare providers, attributable to onerous programmatic rules that fail to meet the express mandate of the Congress.

Much like the issue of the limitations regarding the rules applied to Medicare reimbursement, many communities designated as rural by USDA standards do not qualify for universal service telecommunications support by virtue of whole county designations as an MSA. As an example, the Appalachian Regional Commission designated distressed county of Scott County, Virginia, is designated as an MSA because of its adjacency to Kingsport, Tennessee. The rural town of Dungannon, Virginia, population 304, in Scott County, is the site of a federally qualified community health center, Clinch River Health Services, a UVa telemedicine partner. The clinic and the patients they serve are located an approximate one hour's drive through the mountains to the nearest hospitals in Kingsport or Bristol, Tennessee. However, by virtue of the whole county designation as an MSA, Clinch River Health Services is ineligible to receive telecommunications discounts through the Rural Healthcare Support Mechanism.

The FCC has not yet acted upon a Notice of Proposed Rulemaking issued more than a year ago regarding this specific issue.^{2,3} This pending rule change is of major importance as the USDA rolls out other new programs to encourage and facilitate the deployment of rural broadband services which include healthcare.

Any effort to coordinate and facilitate greater utilization and cost-effective deployment of telemedicine initiatives will ultimately enhance the sustainability of rural telemedicine programs and by inference, the health of our rural citizens. Without such coordination across all the agencies, we are at risk of engendering obsolescence in the Federal Government's considerable investment in telemedicine programs.

In conclusion, by increasing funding for quality demonstration projects and grant programs such as the RUS Distance Learning and Telemedicine Grant program of the USDA, and by further reducing both the statutory and regulatory barriers outlined above in regards to:

- (a) Programmatic rules of the RUS DLT program
- (b) Rules governing reimbursement of services provided to Medicare and Medicaid beneficiaries

(c) The Rural Healthcare Support Mechanism,
Congress has an opportunity to greatly enhance the viability and sustainability of our nation's telemedicine programs, thereby increasing access to locally unavailable quality healthcare services that reduce rural-urban disparities and strengthen the emergency preparedness of our rural communities.

Thank you for this opportunity to offer testimony before the committee today. I would be happy to respond to any questions.

STATEMENT OF PATTI J. PATTERSON

Mr. Chairman: Thank you for this opportunity to address potential improvements for distance learning and telemedicine in rural America. My testimony is based on my training as a physician, my public health experience, and my current service as Vice President for Rural and Community Health at the Texas Tech University Health Sciences Center in Lubbock, Texas.

At Texas Tech University Health Sciences Center (TTUHSC), we provide health care and education services across distances by using technology on a daily basis. This will provide the context for my comments on the USDA Rural Utilities Service Program.

TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

The Texas Tech University School of Medicine was created in 1969 by the Texas Legislature to address health care needs in rural west Texas. The TTUHSC is a multi-campus institution that is comprised of schools of medicine, nursing, pharmacy, and allied health with campuses in Lubbock, Amarillo, El Paso, Dallas, and the Permian Basin. Relying heavily on technology precisely of the sort encouraged by the USDA DLT program, TTUHSC has learned valuable lessons in conducting health care education and patient care on geographically separated campuses.

TTUHSC has made a measurable positive impact on the health status of communities through the training, placement and retention of primary care professionals. For example, of all the physicians currently practicing in west Texas, nearly 25 percent are Texas Tech medical school or residency graduates. Numbers representing the Schools of Nursing and Allied Health are even more impressive: the majority of their graduates remain in west Texas to practice.

Due to these institutional circumstances and geography, Texas Tech has considerable practical experience in programs that are relevant to the U.S. Department of Agriculture's efforts on behalf of distance learning and telemedicine. Distributed education through our regional campus system is the familiar and expected way of doing business for both faculty and students: classroom lectures, clinical case reviews, and grand rounds, for example, are typically broadcast to audiences on all the campuses, with almost 11,000 hours of direct instruction being transmitted each year. Our Healthnet distance education system distributed over 76,000 hours of certified continuing education credit for health professionals last year, thus reducing travel costs and disruptions to health services in numerous communities.

The TTUHSC has also been a pioneer in the use of telemedicine to improve access to care in remote areas. Through an extensive network comprised of 30 sites, telemedicine initiatives are underway in schools, community clinics, rural hospitals, prisons, and nursing homes. The TTUHSC has delivered specialized medical care via two-way, live interactive videoconferencing throughout much of west Texas. Currently we perform more than 200 telemedicine consults per month, and have conducted more than 13,000 patient exams since our program began in 1990. While most telemedicine nationally involves providing a patient access to care by a specialist, we have endeavored to provide primary care access to populations who are most remote. This mission has also led us to develop a Telepharmacy program to improve access to pharmacy services in an isolated community. This program is being carried out in conjunction with a USDA grant recipient.

WEST TEXAS

This land contributes importantly to the production of America's food, fuel, and fiber. In rural areas throughout the region, however, times are hard. Drought, fickle markets, and commodity prices hammered downward by global competition are threatening isolated communities with challenges as severe as pioneers faced a century ago. West Texas remains one of the most medically underserved areas in the country. Here, as elsewhere on the Great Plains, geographic barriers to care and disparities in health services related to income and ethnic factors combine with the demands of an aging population, a declining workforce, and an information divide to create acute problems.

Both the educational and health care dimensions of the Department of Agriculture's technology programs correspond to needs in west Texas.

West Texas geography poses particular challenges of scale and diversity. West Texas comprises an area of 131,323 square miles, or 50 percent of the land mass and 13.9 percent of the total population of the state.

Four trends emerging from population and economic data are noteworthy.

First, while the rural population as a whole is growing, slowly, its relative share of the State's total has dropped markedly. Of the 196 Texas counties designated as rural, 99 are in the 108-county TTUHSC service area. Of these 99 west Texas rural counties, 54 are classified as frontier counties. Frontier counties have fewer than seven persons per square mile; in the majority of frontier counties in west Texas, the population density is barely half that.

Second, in west Texas counties not adjacent to metropolitan areas, the rural population is declining steeply; schools and churches are closing and small towns are dying. Continuing a long trend, from 1990 to 2000, over half of the 108 west Texas counties had losses in population ranging from 4 percent to 10 percent. In many of these counties the current population is less than it was in 50 years ago.

Third, the demographic profile of west Texas is changing dramatically. A swiftly growing Hispanic population constitutes a large underrepresented minority throughout the region. In counties along the U.S.-Mexico border, Hispanics account for 28 percent to 70 percent of the population. In all west Texas counties that lost overall population over the past decade, there has been a sharp increase in the over-45 population and a decrease in the under-45 population. With young people streaming out in search of work, leaving the rural elderly to age in place, the proportion of persons over age 60 is rising. Persons over the age of 80 constitute the fastest growing segment of the west Texas rural population. This growing elderly population magnifies the health care workforce and infrastructure issues because of the dramatically greater need for medical services by the elderly.

Fourth, declines in population are associated with factors of economic hardship that are worsening. From 1990 to 2000, 42 west Texas counties had per capita income decreases of up to 50 percent. Thus, most of rural west Texas did not participate in the strong economy and rapid population growth of the 1990's.

The connection of rural economic development and rural health is clear from gaps in the health care infrastructure. Access to dental care throughout the region is an urgent problem. The TTUHSC service territory has 27 counties with either one or no physician; nine have no primary care physicians, no nurse, and no physician assistant. Thirty-seven counties have no hospitals and 19 have no pharmacists.

West Texas newspapers carry almost weekly reports of hospital, clinic, and nursing home closures and the departures of physicians. The negative consequences of these closures are far-reaching. Rural communities, once deprived of access to health care, suffer concomitant economic losses that tend to worsen the problem. In west Texas, health care spending per county resident is approximately \$3,500 annually; a county of 20,000 residents might expect to generate annual revenue of \$70 million dollars. To an extent only recently appreciated, however, most of these dollars do not remain in the county. Out-migration from rural counties is a major contributor to the loss of revenues, and 70 percent to 80 percent of out-migration is due to availability-of-care issues.

As these figures suggest, west Texas provides an ideal open laboratory for the deployment and field testing of telemedicine and distance education programs.

ADMINISTRATION AND IMPLEMENTATION OF THE DLT PROGRAM

Does telemedicine and distance education correct all of the problems associated with rural health care? The answer is "No." Technology cannot correct the problems associated with a diminishing workforce, lack of health insurance, or increased health care costs due to an aging population. It can, however, be a tool to help develop creative mechanisms to bring health care and education to isolated, underserved places.

In regard to the USDA Rural Utilities Service Program, as with any public program, there are two things to be carefully evaluated. The key questions are: "Are we reaching the people who would benefit most?" and "What is the long-term impact of those funds?"

Under the current USDA Rural Utilities Service Program, the people with the greatest needs may not be able to muster the resources necessary to successfully apply for funds. The guidelines are complex, because they cover both loans and grants, and could very well be difficult for a rural-based community with very limited resources to be able to complete an application. There are a significant number of forms and details that appear to pertain more to other programs funded through this process but must be completed even though they may not be applicable. Also, the match requirements are likely to be an impediment to economically stressed underserved rural areas. While only a 15 percent match is required, the scoring methodology clearly favors those participants who can bring a 150 percent match to the table. In addition, the guidelines suggest that winning applications derive from a preexisting mature and meticulously documented network of local support. This means that areas with extremely limited infrastructure and massive health care needs are penalized and would be unlikely to receive funding.

Grant programs that provide equipment for telemedicine are important. However, true success of such programs will always rely upon their long-term sustainability. Telemedicine has a plethora of successful applications behind it. Health policies should assure that telemedicine reimbursement is a component of the traditional health care funding mechanisms. For example, although the Balance Budget Act of 1997 made significant improvement to Medicare reimbursement for telemedicine services, nursing homes are not permissible as origination sites for telemedicine services. There are nine counties in west Texas with nursing homes that do not have a practicing physician located in that county. Telemedicine should certainly be evaluated as a potential methodology for decreasing transportation cost and improving quality of care for these elderly residents. Although fraud and abuse is always a concern in government funding programs, policies need to be flexible enough to allow creative approaches to intractable health care access problems while maintaining high quality in those services.

To summarize, I endorse USDA programs that can broaden educational opportunities and improve access to health care. Mr. Chairman, that concludes my statement. I would be happy to answer any questions you or another member of the committee may have.

STATEMENT OF HOWARD CHAPMAN, JR.

Chairman Goodlatte and Members of the Committee on Agriculture:

My name is Howard Chapman, Jr. I serve as the Executive Director of Southwest Virginia Community Health Systems, Inc. We receive Federal funding through the Community Health Center (CHC) program, which is funded through the Bureau of Primary Care (BPHC). We operate the following programs through our organization:

- Saltville Medical Center - Saltville, VA (CHC serving Smyth /Washington Counties)
 - Troutdale Medical Center—Troutdale, VA (CHC serving Grayson County)
 - Twin City Medical Center—Bristol, VA (Scheduled to open June 30, 2003 CHC serving the City of Bristol, VA/TN)
 - Migrant Health Network—Emory, VA (Migrant Outreach Program serving eight (8) counties in Southwest Virginia for migrant and seasonal farmworkers)
 - Mt. Rogers Medication Assistance Program—(Prescription Medication Assistance for qualified indigent and uninsured patients in the Mt. Rogers Health District)
- CHCs are public/private partnerships that are governed by a local volunteer board of directors. They are non-profit corporations that serve the entire community, regardless of the patient's ability to pay. This is through the use of a Sliding Fee Scale that discounts the patients charges based on their total family income and total family size. It is updated annually by the Federal Poverty Guidelines. . Our minimum co-pay, at the bottom end of the scale, is \$5 per visit. That is a true benefit for our indigent patients.

About one third of the operating budget comes from Federal sources, the other two-thirds is generated through fee for service charges, private self-pay, and insurance contracts. The CHCs serve as federally Qualified Health Center (FQHC) providers through the Center for Medicare and Medicaid Services (CMS). They receive cost-based reimbursement for Medicare and Medicaid visits.

In 2001 our organization served 5,587 medical patients or users. We had 16,203 medical patient visits or encounters. We had 693 enabling patient users (i.e., patient transportation, translation, case management, etc.) and that produced another 3,849 enabling encounters. Of the patients we served, the following was noted:

- Uninsured—53 percent
- White—81 percent
- African American—2 percent
- Hispanic—17 percent
- Living below 100 percent of Poverty—34 percent
- Living below 200 percent of Poverty—37 percent
- Medicaid Coverage—11 percent
- Medicare Coverage—13 percent
- Private Insurance—22 percent
- Mental Health or Substance Abuse—9.5 percent

The area we serve has been devastated by plant closings in recent years. Since 1999 we have had 19 plants to close their operation in this area. That resulted in the loss of over 1,800 jobs and insurance coverage for the employees and their families. A recent newspaper article noted that the Smyth County unemployment just dropped below 10 percent.

That may not be a true reflection of the unemployment rate, but reflects those receiving unemployment benefits dropped below 10 percent. Many of the remaining jobs in this area are in the woodworking and textile industry. They have low pay scales and are the first to produce layoffs and the last to recover when the economy is strong. Only 2 percent of the migrant and seasonal farmworkers we serve have insurance coverage.

As a federally funded Community Health Center, (CHC) that operates programs in rural Southwestern Virginia, I know the problems of access to care. We provide primary care and preventative health services to our patients. The Federal funding is primarily to serve the indigent and uninsured. Over 50 percent of our patients have no health insurance listed. It is estimated that 42 million Americans are uninsured and about 1 million Virginians are uninsured. There are currently about 3,500 federally funded CHC sites in the U.S. and 67 sites in Virginia.

The comprehensive services we offer as a CHC require that we partner and network with other area providers and service agencies. This allows us to maximize resources through eliminating duplication of services.

A big area of concern is access to specialty care. A shortage of these providers exist in our area and they often have a heavy patient load of insured and paying

patients. These patients usually have transportation and the ability to pay and no real barriers to accessing care.

That is not the case with the indigent and uninsured patients. They do not have the ability to pay for the services up-front, (usually \$200 or more for the initial office visit).

They lack transportation and insurance coverage for the needed labs, x-rays, and other testing, or just basic services.

The University of Virginia (UVA) Telemedicine Program has been a great benefit in our ability to serve the indigent and uninsured. UVA accepts our Sliding Fee Scale and discounts the patient charges based on their total family income and family size.

It is four (4) hours (one way) from the Saltville Medical Center, (SMC) to the UVA Hospital in Charlottesville. That makes routine travel to the UVA facility difficult for many of the indigent patients. UVA is the nearest state supported teaching hospital and they provide a tremendous amount of indigent care across the state. Our area of rural Southwest Virginia has no mass transit and only limited taxi service. A recent study conducted by the Southwest Virginia GMEC (Graduate Medical Education Consortium) noted that 14 percent of the households in their service area (Planning Districts 1, 2, & 3) had no telephone service. About the same percentage lacked vehicular transportation. The UVA Telemedicine Program makes 24 separate specialties accessible and close to home.

UVA just placed a Digital Retinopathy Camera at SMC. We are currently participating in the Diabetes Collaborative, which is one of the Chronic Disease Collaborative sponsored by the CDC, National Institute of Health, and BPHC. The required eye exams are an important part of the treatment protocol for diabetic patients.

The Blue Ridge Poison Control Center is staffed through the UVA Telemedicine link 24 hours a day / seven days a week and is accessible by our staff.

A second part of the UVA Telemedicine program is to provide patient education. UVA offers an 8-week Diabetes Education Program, among others. They will also help with programs and trainings for specific needs. It puts the resources of UVA in the hands of our providers.

The UVA link also offers Continuing Medical Education (CME) to our providers and staff. This removes much of the rural isolation for our providers and has improved our efforts in recruitment and retention of providers. All of the UVA Telemedicine Services (including CME), are made available to the public, area providers and their patients. The CDC Broadcast for Bio-Terrorism Preparedness was available through the UVA Telemedicine link. Local police, fire, rescue, public health officials, and others attended this broadcast at SMC.

Other community organizations have used the UVA Telemedicine link at SMC and other locations to conduct their meetings. This includes the Southwest Virginia AHEC (Area Health Education Center) and the Southwest Virginia GMEC (Graduate Medical Education Consortium). Both of these are organizations that deal with teaching and training health care professionals. The service area for these organizations can take up to six (6) hours driving time to travel from end to end.

Further expansion of the use of the telemedicine program would be my recommendation to improve the system. It puts services in remote rural areas that lack resources to support a full time provider. It provides direct treatment and education to the patients we serve that they could not afford. Similar programs could benefit the indigent and uninsured across the state and nation with such established linkages.

The one problem I would note is access to mental health counseling. UVA has a connection through the Apple Link and the system used by the Community Service Boards. Unlike the UVA services, their counselors are hard to access, but are in great demand among our patients and other communities throughout Southwest Virginia.

In conclusion I would like to say that the UVA Telemedicine program and their partnership with our organization and other CHCs across the state has lead to improved access to specialty care. That in turn has improved health outcomes and the quality of life for many of the people we serve.

Thank you for your time and your support for the telemedicine program.

STATEMENT OF CARL TAYLOR

Mr. Chairman and members of the committee, thank you for inviting the University of South Alabama to join the discussion of current conditions in rural healthcare in America, and to share our ideas and experiences in telemedicine for

improving healthcare for rural Americans. We are proud of our initial efforts in this vital, lifesaving arena of medicine.

This Committee knows firsthand the medical challenges facing rural Americans. You especially realize that medical problems facing our urban medical centers grow exponentially in rural settings. Barriers of travel, economics, resources, and opportunities separate those in rural communities who need medical care from those who are able to provide it. In Alabama, our rural health care infrastructure has become increasingly fragile and stands now at a crisis point. Numerous factors affect the continuing viability of many rural hospitals to keep their doors open: a shortage of specialty care physicians; loss of already scarce nursing staff to urban hospitals; a large percentage of unfunded patients; and a reliance on payment systems that may not cover the costs of care. These often prevent rural residents from receiving sufficient access to health care.

A recent study commissioned by the Alabama State Hospital Association reported that fourteen mostly rural hospitals in Alabama are operating on negative margins and face the very real threat of closure. Alabama's rural physicians suffer from the same challenges: an adverse patient/payer mix; peer isolation; lack of suitable call coverage; and difficulties in recruiting staff. Against this backdrop rises the specter of a deadly storm of epidemics: obesity, diabetes, hypertension, heart disease, asthma, and cancer. CDC data continue to point to an at risk population, especially in the rural Southeast. Our area experiences significantly increased levels of cancer; 1 in 3 minority rural children run the risk of developing diabetes; and the African-American and Hispanic populations in rural Alabama are growing rapidly.

THE HISTORIC ROLE OF TELEMEDICINE

Since the late 1960's, telemedicine primarily has involved the use of video conferencing equipment connecting two sites—a basic hub and spoke model of care. The principal is to connect patients in rural hospitals with specialty physicians in urban hospitals or academic teaching centers. Most studies have indicated high patient satisfaction, thus, the hub and spoke system continues to dominate the telemedicine industry today.

USA'S TELEMEDICINE EXPERIENCE

The University of South Alabama School of Medicine has achieved successes following its entry into rural telemedicine. We provided big box conference equipment, linking rural hospitals with our teaching medical center. However, sufficient transmission capability to enable this equipment to work does not always exist in some rural areas. Of course, we've established continuing medical education for rural hospitals, presenting our grand rounds for two-way discussions with rural doctors; and we have a patient education program. We've had great success with our rural neonatology consultation and treatment program, providing instant expertise to rural hospitals when low birth weight babies are born there and prior to our advanced neonatal teams arriving to transport the infants to our Women's and Children's Hospital. Two of our uses of telemedicine, however, deserve special recognition. We've created a "community of care ecosystem" for chronically ill patients with multiple disorders in several of our rural areas. Also, our tele-trauma consulting, transportation and treatment program is one of only four or five of its kind in the nation. These programs, especially, indicate the level of sophistication we already have achieved.

COMMUNITY OF CARE ECOSYSTEM

USA equipped several hundred homes of chronically ill patients suffering multiple illnesses with \$200 units that transmit vital medical conditions via these patients' telephones to USA's Medical Center where they are monitored. Readings outside normal parameters draw immediate calls or visits from healthcare providers. We have a great story about this success. Almost two years ago I visited the Grace Bussey Clinic in Pine Apple, Alabama. The healthcare system in Pine Apple is embodied in Dr. Rose Anne Cook. She is what I think we wish doctors everywhere were. Dr. Cook runs the clinic and to give you an idea of her dedication, let me share a story. On December 17th of last year she stopped to help some men whose car appeared to be broken down by the roadside. They beat her, robbed her, put her in the trunk of her car and fired four bullets into the trunk. Miraculously she was only grazed. In spite of her frightening event, Dr. Cook was seeing patients on December 18th in her clinic. When I first met Dr. Cook, she pointed out that, blocking her pharmacy, was a large video conferencing box left there but never installed because no local carrier would run a T1 line. Dr. Cook explained it wouldn't matter

anyway. She felt clinically more comfortable with patients going to see a specialist where tests she couldn't provide could be run. I asked if there was anything I could do to help. She answered in a millisecond "Yes, you can help me with my chronic patients." For the past 15 months we have done just that.

We recognized that healthcare delivery for chronic patients needed to be re-invented. Hospitals and specialists do quite well with episodic care—the nature of their business and training. Disease state management companies often do well with one condition, congestive heart failure most notably. But for the rural patient, managing one episode or one condition simply continues frequent flyer travel to the emergency room, leaving little true health improvement. Instead, what is needed is life state management—a recognition that many chronic patients in rural America suffer from a number of co-morbidities. Our rural hypertensive patients often are obese and diabetic, with breathing problems. They don't see a primary physician and they don't have a health maintenance routine. Instead, they experience acute problems, go to their rural hospital emergency room, are "patched up" and sent on their way. ER's are not set up to provide the care they need. And the costs are astronomical. Further, most of these chronic patients are uninsured and unable to pay. This system presents "physically" life-threatening problems for the patients and "financially" life-threatening problems for the rural hospitals. That makes for bad medicine, bad care, and bad business.

In Pine Apple, AL, we took a core group of 50 people with multiple serious illnesses who, on average, used ER's at least 4 times per year. We equipped their homes with a small piece of high tech gear, monitored their conditions, called them when they needed blood pressure or sugar level consultations, sent community nurses when their conditions warranted, directed them to obtain immediate care when required, and served as their medical advisor and friend. A startling result occurred. In 15 months, there was only one ER visit among these 50 people. That meant 199 nonessential ER visits were eliminated, not only saving money to financially strapped rural hospitals, but more importantly, improving the quality of life for these 50 patients and their families. Our patients over the past 15 months have avoided hospitalizations, lost weight, dropped their blood pressure, begun to believe in their physicians' advice and, perhaps as important for us, become ambassadors to other patients to tell their stories.

We saw the need to manage the chronic rural patients' disorders to bring them back to a more normal health state. To do this takes a community of care—an ecosystem that enables life to thrive. Healthcare is too often practiced in silos with little information or data sharing among providers, payers, or hospitals. A community of care is a place where common important data about the patient resides. It becomes their record and our management tool. Telemedicine is an excellent, economical, and user-friendly way of accomplishing this vital medical service. This particular high-tech equipment is simple to use. Many of these patients read at the third grade level so it was a good match.

TELE-TRAUMA

Trauma treatment must be available, sophisticated, and immediate. The golden hour after a traumatic injury often makes the difference between life and death. We recognized that trauma treatment is more difficult in rural areas and, as a pilot program, established a link between the Monroe County Hospital and USA's trauma center. USA trauma surgeons provide coaching, care and evaluation of patients to rural doctors before USA's SouthFlight emergency helicopter arrives to transport the patient. We maximize patient treatment from the start through telemedicine. Also, our hospital trauma center is then better able to treat the patient when they arrive. Going one step further, we have wired the homes of our trauma physicians to make them available to rural doctors 24/7.

CHALLENGES FACING RURAL MEDICINE

The challenges we and other rural medical providers face, however, need to be recognized and addressed. First, the cost of equipping a site is not immodest. Second, big box telemedicine eats up significant bandwidth, consequently making T1 lines the connectivity of choice, but not always available in rural areas. Data transmission costs, even with Universal Services contributions, can challenge rural hospital budgets. Also, consultations produce little revenue for rural hospitals. They would much prefer having the specialist physically present and doing billable procedures. Also, for the consulting physician, the process is not as time effective as the traditional office visit. The hub and spoke system often follows transmission lines rather than traditional referral patterns. The fact is that doctors do not refer their patients to technology, instead, they refer them to peers. It leaves little doubt that

one root cause of underperforming telemedicine systems can be found in human barriers more so than technical ones. Perhaps even more compelling is the fact that telemedicine, if inexpertly used, can also be guilty of episodic care to chronic problems.

THINK OUT OF THE BOX IN TELEMEDICINE

Chronic multiple disease rates in rural America are daunting and compelling. The explosive growth of diabetes, hypertension, obesity and other conditions paint a picture of a population in need of a rational, economical, and 21st Century system of healthcare.

What USA Medical School has built is the beginning infrastructure for a new way of treating a patient—a patient with certain conditions that may be defined as chronic and long standing, but for whom compliance and management with drug, diet and exercise regimens will lead to a longer, healthier life. And in the future hopefully far more time under the identity of a person than a patient.

What does it take to build this community? Healthcare only works if all partners are equals at the table. Our community is a combination of high tech and high touch. First, let's discuss the technology. Common off the shelf technology whose data capture is transmitted to a data base across telephone lines is a far more sustainable technology deployment than large bandwidth hogs. If there is one transmission certainty in rural areas it is that you will generally find a telephone line. To meet Dr. Cook's needs of being able to better manage her chronic patients, we deployed small dual tone frequency modulators connected to the patients' standard telephone line with inexpensive peripherals for scales, glucose, blood pressure and others. Peripherals connect to the small box, about the size of a deck of cards, and transmit with the push of one button. The data is then stored in a database reviewed by two nurses, a community nurse and a care coordinator. The database also highlights and warns these nurses of any abnormal value received and allows early intervention when warranted.

But the data capture of Dr. Cook's patients and the successes we have had are but one block of the community structure. We need to develop others. This ecosystem of care needs further alignment and expansion. Who are the people in your neighborhood community of care? For children at risk for diabetes, obesity and asthma it requires partnering with the local school system to identify these children and their parents and offer the same care and compliance support that is offered to adults. Second, the role of the rural hospital cannot be minimized. In the rural community the hospitals are often the largest employers and a central component of community survivability. Even the Joint Commission on Accreditation of Healthcare Organizations in its recent homeland security focused Healthcare at the Crossroad report acknowledges that in many communities it's the hospitals that need to call a meeting to initiate all hazards preparation. But, life state management is often an asymbiotic relationship with hospitals that are, after all in the sickness business. Nevertheless there is a clear and compelling role for the reinvention of hospitals in the rural communities to join forces in being a key component in longitudinal management of chronic patients. I would be remiss if I did not mention the role of the payers in this community of care. Health care financing is broken as is witnessed by the unprecedented rise in our medical inflation rate. It is the rural communities, often made up of small employers, or self-employed individuals, who are the least able to withstand the 15% annual rate increases. Logic should dictate that new CMS demonstration projects that tie payment to risk based population management may bear fruit in aligning our community of care's incentives to achieve cost effective, quality of life improving health outcomes. These demonstration models should be watched and copied by state Medicaid programs and afforded by CMS to the rural communities for participation.

RURAL PHYSICIANS AND TELEMEDICINE

I have left the physicians in the rural community to last in my comments because if anything they are clearly the most important part of the equation and deserve a deeper examination. The community of care only works if a well qualified, caring physician encourages patients to participate. But for the physician in a rural setting, survivability is more complex than just caring. The urban physician, particularly if practicing in a large group practice, enjoys the benefits of taking less call, earning more money, staying connected to their peers. For the rural patient to survive, for the rural hospital to survive, and for the rural community to survive, the rural physician must survive. What is needed is an opportunity to place rural physicians on a practice plane with their urban peers. High-speed connectivity to the best of breed support programs to promote practice efficiencies is required. A brief sam-

pling of value driven practice enhancements includes: desk top rather than hospital site; web based video conferencing for education; and peer- to-peer conferencing. This would reduce rural provider isolation but in a means and manner convenient to the provider. An electronic medical record including links to the community of care record that will enable the physician not only to manage his or her practice but to use the community of care record as a link to the totality of the patients' health and activities. For example, one noted challenge to the rural physician is in the area of cancelled or missed appointments. Patients in rural communities often face transportation barriers or uncertain schedules. The community of care link would keep a record of scheduled appointments and allow the community nurse to remind the patient of their appointment with the physician. Medication management is another challenge. Whether it is multiple prescriptions from rural and urban providers, or simply patients who forget to take their medicine, a medication management tool embodied in the community of care record is a requirement. In addition a robust information environment becomes a ubiquitous tool for connecting traditional specialty referral patterns from both within and without the rural community. One common complaint of rural physicians is that a patient referred to an urban specialist can either become a lost patient, or worse, a patient who returns to a rural physician for follow up care without the rural physician knowing what has been recommended. Finally a robust suite of services provides sufficient aggregated data upon which to draw lessons learned about best practices, cost effective outcomes, and life state success stories that should resonate with the payers.

The rural health community ecosystem is dependent upon each part playing a role if the system as a whole is to survive. High tech and high touch must integrate in a means and manner that produces demonstrable improved outcomes. If survivability is the question, then connectivity is the answer.

Thank you for allowing me to share these observations with you.

Testimony of

George S. O'Brien

On behalf of the

**Adirondack/St. Lawrence Seaway
Small Rural Schools Consortium
Rural D.R.E.A.M.S.
(Daring Rural Education to Affect Meaningful Science)**

Before the

U.S. House of Representatives

Committee on Agriculture

June 25, 2003

Thank you Chairman Goodlatte, members of the Agriculture Committee. My name is George O'Brien. I am Superintendent of Schools at Copenhagen Central School located in Copenhagen, New York. My testimony today is presented on behalf of a consortium of six rural school districts, the Jefferson-Lewis Board of Cooperative Educational Services, Jefferson Community College, Syracuse University and Cornell University for which my district acts as the Lead Educational Agency. Our consortium has been a recipient of a grant under the Rural Utilities Service (RUS) Distance Learning and Telemedicine (DLT) Loan and Grant Program for the past three years. The grant monies have provided the consortium students with the opportunity to participate in college level courses, explore careers in agriculture, participate in inquiry-based science projects, and view the world beyond our small towns and villages.

Targeted Schools & Communities:

The Rural D.R.E.A.M.S. project targets two of the most impoverished, rural regions in New York State. Jefferson and Lewis Counties are the 2nd and 4th poorest counties in the state respectively based upon data maintained by the U.S. Census and the New York State Department of Education. Of the 18 school districts in our Board of Cooperative Educational Services region (BOCES) spread over 3,313 square miles, two thirds are on the list of "high-needs/low resource" schools according to the State Education Department. The project specifically focused on providing direct assistance to a number of the smallest schools in the region.

The largest school district represented in the proposal for direct support of equipment purchases was Alexandria Central. The Village of Alexandria Bay has a total population of 1,194 and the entire school district has fewer than 4000 residents per the school tax roles. The other districts directly impacted by this project all have smaller enrollments

and the villages are too small to be represented in the census figures for towns and villages.

Alexandria Central, Belleville-Henderson Central, Copenhagen Central, LaFargeville Central, Lyme Central and Sackets Harbor Central Schools are all specifically targeted in the project. The local economies of these communities are largely dependent upon dairy farming, tourism along Lake Ontario and the St. Lawrence River, paper production and logging. Prior to this project, the schools represented could not offer college credit bearing courses to high school students. Some of the schools also wanted to offer specialized courses in agricultural sciences.

The Goals of Rural Dreams:

This project was built around a very simple premise that our young people “covet what they see everyday” in terms of life paths and possible careers. But the lives and life paths that they might have once pursued – careers not requiring a college education – are disappearing. So we have to raise not only their aspirations, but their educational expectations.

Our project then set out to:

- Enhance the capacity of our local community college and Board of Cooperative Educational services to provide students access to credit-bearing college coursework and advanced high school courses that they otherwise could not take.
- Provide professional development for teachers and community education by way of relationships with our Board of Cooperative Educational Services and local colleges and universities.
- Pilot an approach to career education that is project based. We have started by letting students explore careers and develop technology supported descriptions of careers in agriculture – “what they see every day.”
- Expand the use of distance learning into our elementary classrooms by way of virtual field trips and the use of web-based instructional materials to collaborate with other children in an inquiry-based science project.

The chart below summarizes the college level courses that have been taught by Jefferson Community College via distance learning to the consortium schools.

SCHOOL	ENROLLMENT	2003 SENIOR CLASS	Date DL OPENED	# OF College COURSES (to date)	# OF STUDENTS (to date)
Alexandria Bay Central	700	52	Sept, 2001	16	70
Belville Henderson Central	572	43	Sept. 2002	4	18
Copenhagen Central	600	43	Sept. 1998	32	224
LaFargeville Central	550	31	Sept. 2001	14	56
Lyme Central	370	35	January 2003	2	8
Sackets Harbor Central	480	32	Sept. 1998	30	210

The initial success of the consortium schools provided the impetus to the other schools in the region to use either local or state funds to provide distance learning. As of today our area has both fiber and ISDN connectivity.

The network has enabled schools to offer students Saturday SAT prep courses. It has been used by adults to take under graduate and graduate courses, along with hunting and boater safety classes. Teachers and administrators have participated in professional development and community groups have used these facilities to hold meetings.

Virtual field trips are enhancing students' learning. For example, students in the network have traveled to the Bronx Zoo, Albany Museum of History, NASA, and the San Diego Zoo.

Cornell University is helping us develop a web site called "rural dreams," located at www.ruraldreams.org. On this site, we will be showing our students' work in the career project as well as our work on the Streamwatcher's project, which is a web-based environmental science curriculum, geared to elementary age students. As we speak, a hands-on, inquiry based science curriculum is being adapted for the web so that students can work "at a distance" on scientific inquiry utilizing a local body of water. A first iteration of the curriculum is currently on the web and is geared to 4th graders. High quality animations are being developed to help our students conduct biological, physical and chemical tests of streams.

This is a unique collaboration between Cornell University and Syracuse University in that graduate students at Syracuse University adapted the paper based curriculum, which was a Cornell University product for the web. Cornell is now working to enhance the content

and to link the materials to other related sites and a professor from Syracuse University's College of Visual and Performing Arts is developing interactive animations. These animations will help students learn about the biological, chemical and physical properties of a stream as an ecosystem. Dr. Janet Hawkes, the Director of the Cornell Education Resources Program, is working to ensure that the content of the curriculum is appropriate and rigorous and that our web site links to other agriculture and environmental science resources that Cornell has at its disposal.

Our career project has been a great success. To date, our 6th grade students have interviewed people in our local community, including the local milk plant inspector, and others from outside the region including Hilda Legg, the administrator of USDA's Rural Utilities Service. Our students then showcase what they have learned about the nature of the work these individuals do and the skills needed and the education necessary to be successful in their positions. The students learn to use digital video technologies and create their own video and audio clips that demonstrate what they have learned. These materials are shared with students in our region and beyond via the web site. Next year, we hope to have students explore careers in Environmental Sciences – just one step away from what they see in their respective backyards.

Also, next year, Dr. Laura Payne-Bourcy who has been with this project from the beginning will be conducting a scientific evaluation of this integrated approach to career and technology education. She will use our school as a treatment school and another school that utilizes a more traditional approach to both career and technology education as a control group, so that we can document how student learning has been enhanced. This work will be disseminated in peer-reviewed journals so other rural communities can benefit from the work that the Department of Agriculture has made possible. We will also collect longitudinal data on participating students and their choices of colleges/universities and life paths.

This summer, science teachers in our schools will be provided with technical assistance by Dr. John Tillotson of Syracuse University, Associate Professor in Science Education, specializing in rural schools' issues on the integration of technologies. Dr. Tillotson is especially interested in helping rural schools expand science offerings by way of distance learning technologies and enhancing existing courses using a range of technologies including hand-held devices. The intent of this work is to build and expand upon work already begun in consortium schools. We believe that exemplary units of study will result from this opportunity.

Mr. Chairman, I want to thank you for this opportunity to share some of the successes that the students in our consortium have experienced and will continue to experience as a direct result of RUS Distance Learning and Telemedicine (DLT) Loan and Grant Program. It is programs like this that provide the assistance to the small rural schools that we need as we try to level the playing field and expand our students' world.

Thank You.
I would gladly answer any questions you may have.

Careers in Agribusiness

Project Goals

- Provide students a first hand view of what jobs in agriculture are really like.
- Provide students a chance to speak with people who perform these jobs every day.
- Provide students the opportunity to use technology to share with others what they have learned about agribusiness careers.

Skills And Standards

- Interviewing
- Writing dialogue
- Gathering information
- Synthesizing information
- Using digital cameras
- Using video cameras
- Video Editing
- Public Speaking

Vision for the Future

- * Career exploration outside the local area with interviews via email or distance learning facilities.
- * Contributions to the website from other students in schools across the United States.
- * Expand to include careers in environmental science.

Careers Visited to Date

<ul style="list-style-type: none"> • Dairy Farmer • Dairy Inspector • Processing Plant Intake • Processing Plant Distribution • Milk Hauler • Farm Machine Mechanic • Ice Cream Maker • Ice Cream Sales & Advertising • Ice Cream Plant Maintenance • Lab Analyst • Meat Cutter • Produce Manager • Auctioneer 	<ul style="list-style-type: none"> • Cattle Buyer • Deer Ranch Manager • Deer Ranch Maintenance • Maple Syrup Producer • Cider Producer • Agricultural Construction • Agriculture Science Teacher • Bookkeeper • Administrator of Rural Utilities • Florist • School Cafeteria Manager • Bakery Operator • Dairy Supply Store Manager
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- View the Agriculture Careers Site at www.ccsknights.org
 - Under the picture of the school, look for U.S.D.A./Rural Dreams Project

Exemplary Projects:

- Time Period Newspapers
- Videos "The North Countries Finest"
- Our Weather Stories
- Plant and Animal Expo
- Children's Animated Storybooks
- Creating Animation in Chemistry
- Book Bonanza Project
- Stream Watchers
- Careers in Agribusiness

July 7, 2003

Congressman Bob Goodlatte
Chairman,
 COMMITTEE ON AGRICULTURE
 U.S. HOUSE OF REPRESENTATIVES
 WASHINGTON, DC 20515-6001

Dear Congressman Goodlatte:

I would like to again express that it was an honor and privilege to present testimony in front of your committee on Wednesday, June 25, 2003, in support of the Rural Utilities Service (RUS) Distance Learning and Telemedicine (DLT) Loan and Grant program. After listening to the questions and comments of both the panel and committee members, I felt that the consortium I represent could add more testimony from the grass roots perspective of a successful small rural consortium that has been able to integrate technology seamlessly into the curriculum and the students' instructional day.

The discussions of a potential technical assistance workshop/conference piqued my interest. We were fortunate that such a conference opportunity fell into our laps just as we were in our first year of RUS funding. In the summer of 2001, we were invited to attend a week long conference at Harvard Graduate School of Education entitled Leadership and New Technologies Shaping the Learning Community of the Future. At the conference we met and interacted with diverse schools, from small rural schools to a large wealthy school in Concord, Massachusetts. The end requirement of the conference was that each school team had to present its five-year technology plan. For us, that conference totally helped us to revamp and refocus our technology plan, staff development plan, and our equipment purchasing and usage. That conference gave us time to think critically about how to make the most of the investment that the Department of Agriculture was making in our school and community.

For example, we adopted the phrase "just in time" for staff development. By this we mean that when new technology is going to be implemented or if teachers are doing something for the first time, such as using a wireless computer lab in their classroom or taking a virtual field trip using Distance Learning equipment, all of the district's assets are directed to support the teachers and the students' learning to ensure that the event is successful. The intensity of this support is reduced as teacher comfort level increases. The majority of our staff development is conducted in an "institute" format where teachers come to the training with their own ideas or concepts about a specific unit of learning. The teacher works collaboratively with the integration specialists and colleagues and walks away with a finished totally integrated product ready for the classroom. Equipment, other than replacement computers, is only purchased if it has a specific purpose and has been piloted within the classroom. If a vendor will not let its equipment or software be tested, we go to another vendor. This rarely is the case as the consortium has a solid reputation with technology vendors within the state and northeast region. We also provide the vendor with feedback and act as a demo site for new technology. Essentially, our equipment and software do not wait to be used; teachers are ready for authentic application upon arrival. The plan also provides each staff member with a map showing the district's growth. At first it appeared that the growth would be slow, but the teachers who have been trained and are successful start collaborating with other teachers. It soon becomes infectious as the teachers observe the impact on student learning and the motivation experienced by their peers. Staff members are highly encouraged to bring their ideas to the Technology Committee. Program planning and staff development decisions are made through participation in shared discussions on this committee.

Lastly, successes within our school are showcased and celebrated at other conferences and committees. Staff members have assisted other schools outside the consortium, presented at state level conferences, and our program has been cited in trade journals.

A technical workshop/conference would serve as an excellent forum to answer questions regarding the application process, to provide background information regarding the grant, and, in turn, to help other organizations to make a more informed decision as to whether or not they should apply. The conference would assist applicants, facilitate connections with someone either in USDA or a successful project, and support these other learning organizations as they complete the application. As a successful recipient of a grant, I feel that we have an obligation to assist other districts in the process. The Jefferson-Lewis Board of Cooperative Educational Services, which provides our consortium with its primary grant writing assistance, could provide districts with guidance as they work through the application process.

A second option could be to bring other rural districts in under the umbrella of a consortium. This would enable them to use the leverage of the other districts when it comes to matching funds. The administration and technical guidance could be accomplished over the Internet and/or conferencing over the distance-learning network.

Another issue that we would like to present for your consideration is the issue of matching funds and technical assistance monies available. Presently, 10 percent of the grant can be used for technical assistance. It is one thing to put equipment in a building, it is quite another to teach people to integrate these technologies into their classrooms. Projects already have to leverage a significant amount of funds in hardware/infrastructure to be competitive for these grants. In reality, they leverage at a minimum another 20 percent in professional development funds, which cannot be accounted for or considered in the current process of scoring match. The grant could: (a) allow schools to count their professional development funds in the match; and/or (b) increase the technical assistance funds to 20 percent to support schools' efforts to teach people to integrate these technologies into the curriculum and classrooms. This is more aligned to our "just in time" technology implementation approach and could further accentuate the positive impact this grant money has on student learning in rural America.

In summary, the RUS DLT program is a wonderful program to support advanced telecommunications for and with rural schools and rural communities. And yet, rural schools have challenges (small economies of size, the lack of personnel to write the grants) that make successful participation in such programs difficult in some instances. By putting in place some additional technical assistance opportunities, you may level the playing field in terms of who can successfully apply and who cannot, but also maximize the return on the USDA's investment by knowing that equipment is not just sitting somewhere in boxes. Second, by utilizing and sharing the examples and human expertise in some of the successful projects across the country, we may be able to make a considerable difference in the number of successful projects.

Sincerely yours,
George S. O'Brien,
Superintendent

